FORGING A PATH AGAINST CLIMATE CHANGE THROUGH THE STATES: A CASE STUDY OF OPTIMAL POLICY ROUTES FOR STATE ACTION ON CLIMATE CHANGE

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Abstract

For decades, scientists have warned about the toll humanity's reliance on fossil fuels for energy and transportation is having on our planet's climate, yet the U.S. federal government has been unable to enact a comprehensive climate change policy. In this void, there are a growing number of states considering or are already taking their own actions on climate change despite facing many of the same barriers encountered at the federal level, including the politicization of climate change. While there has been much scholarship on why these states choose to take these actions, there is little about what might be the best policy route for the states to pursue them. This thesis examines three case studies of policy routes used by the different states: a cap-and-trade program in California passed by the state legislature, a ballot initiative to add an amendment to Michigan's constitution to raise its state renewable energy requirements, and the regulatory cooperation between California and the federal government on fuel economy and greenhouse gas emission standards for new vehicles. Reviewing the policy under consideration itself, how it benefits the climate, why and how the state sought this particular action, the policy route through which it was pursued, the deliberation over that policy, and the end result, this thesis recommends that unless there are numerous factors that support taking action on climate change – including political climate, sufficient public education, and a sustained, deliberative process prior to pursuing such a policy – states should focus their efforts on regulatory actions that allow for public involvement but is deliberative and insular enough that only those who are well-versed on the topic and passionate about getting involved in it are part of the actual deliberations. Professors Lisa Jaeger and Paul Weinstein served as readers for this thesis.

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Introduction

For decades, officials at all levels of government have begun to heed the warning of scientists about the toll humanity's reliance on fossil fuels for energy and transportation has had on our planet's climate. The message from the scientific community is near universal: governments must mandate immediate and substantial steps to reduce the amount of carbon dioxide, sulfur, and other heat-trapping emissions humanity generates to curb the worst impacts of climate change, which can strain government resources and lead to political and geographic turmoil.[1]

In fact, a 2013 peer-reviewed paper of 11,944 abstracts of studies and papers published between 1991 and 2011 that discussed climate between found 97.1 percent agreed on the scientific position that anthropogenic global warming – or human-driven climate change -- is real.[2] Scientists had been warning about the possibility of rising global temperatures since the 1970s,[3] but it was not until the1988 formation of the United Nations Intergovernmental Panel on Climate Change that there was a coordinated, global effort to develop strategies to reduce nations' emissions and take steps to mitigate the impacts climate change was already having on the planet. The 1997 Kyoto Protocol, which mandated that signatory countries develop policies to limit and reduce their greenhouse gas emissions, presented the largest commitment in history to combating climate change. But President George W. Bush withdrew the United States from the

[1] Shirley V. Scott, "The Securitization of Climate Change in World Politics: How Close have We Come and would Full Securitization Enhance the Efficacy of Global Climate Change Policy?" *Review Of European Community & International Environmental Law.* 21, no. 3 (2012): 220-230.

[2] John Cook, Dana Nuccitelli, Sarah A. Green, Mark Richardson, Bärbel Winkler, Rob Painting, Robert Way, Peter Jacobs, and Andrew Skuce. "Quantifying the consensus on anthropogenic global warming in the scientific literature." *Environmental Research Letters* 8, no. 2 (2013): 024024.

[3] Charles F. Cooper, "What might man-induced climate change mean?" *Foreign Affairs* 56 (1978): 500-520.

treaty in 2001,[4] stating that the treaty exempted too many countries from reducing their emissions, and since then the country has yet to implement a comprehensive climate change policy. While the country came close in 2009 when climate change legislation passed in the House of Representatives, it slowly died in the Senate. The failure was the result of a myriad of factors that prevented it and other federal efforts to combat climate change from moving forward, including politics, money, poor public perception, and the media.[5]

In the void left by federal inaction, there are a growing number of states, counties, cities, and other subnational governments enacting their own climate change-related policies, such as commitments to reduce local emissions, smart growth policies, and renewable energy mandates.[6] They were able to achieve these actions through a variety of policy avenues like voter referendum, their own legislatures, and regulatory actions despite facing many of the same barriers that stymied past federal efforts.

State Action on Climate Change

According to the Center for Climate and Energy Solutions, 20 states and the District of Columbia have set targets for reducing their greenhouse gas emissions.[7] Most are largely voluntary goals that are not enforceable in themselves but serve as a foundation to build more binding policies like renewable energy requirements, climate

[4] Greg Kahn, "The Fate of the Kyoto Protocol under the Bush Administration," Berkeley J. Int'l L. 21 (2003): 548.

[5] Shi-Ling Hsu, "A Prediction Market for Climate Outcomes," *University of Colorado Law Review*. 83, no. 1 (2012): 179-256.

[6] R. Bierbaum et al., "A Comprehensive Review of Climate Adaptation in the United States: More than before, but Less than Needed," *Mitigation and Adaptation Strategies for Global Change* 18, no. 3 (2013): 361-406.

[7] Center for Climate and Energy Policy," Climate Change 101: State Action," last modified January 2011, http://www.c2es.org/science-impacts/climate-change-101/states/.

action plans, greenhouse gas registries, and energy efficiency standards that would produce those emission reductions.

While there are many reasons why a state would choose to take on climate change, they generally fall into one or more of three main categories.

The first is local impact, that is, an acute awareness of the impact climate change is having on the state's environment and its resources. In the case of Montana, state authorities have already determined that climate change poses a serious risk to the state's water supplies, which can not only have effects on the state's own water-heavy industries like agriculture and livestock production but, as a headwater state, reductions in its water supply can have concussive results throughout the region.[8] The state enacted standards for reducing emissions from its power plants and has been active in multi-jurisdictional emission-reduction plans.[9]

The second is economic incentive, that is, that the state chose to move forward with policies that would not only help combat climate change but also bring economic benefits to the state like reducing unemployment and keeping it competitive with other states in the growing market for clean energy technologies.[10] While not enacting policies directly related to climate change, Pennsylvania – a state that saw its dominant steel industry evaporate in the past several decades – has made a significant push to develop

[8] Climate Change & Water Resources, Montana Department of Environmental Quality, last modified May 10, 2011, http://deq.mt.gov/ClimateChange/NaturalResources/Water/water.mcpx.

[9] SustainableBusiness.com, "6 States Pull Out of Western Climate Initiative," last modified Nov. 22, 2011, http://www.sustainablebusiness.com/index.cfm/go/news.display/id/23178.

[10] Steffan Jenner, Gabriel Chan, Rolf Frankenberger, and Mathias Gabel, "What Drives States to Support Renewable Energy?" *Energy Journal* 33, no. 2 (2012): 1-12.

policies aimed at encouraging the growth of green-centric businesses like biofuels production and energy-efficient technologies.[11]

The third, environmental leadership, is the reason on which scholars have focused most of their attention. While California faced many of the same local impacts like drought as many other states and is home to many businesses that had a strong economic interest in combatting climate change, the state and its leaders have always considered forward-thing environmental policies as a hallmark of their state's identity and responsible for subsequent policies in other states and at the federal level, so much so that it has often been referred to as the "California effect."[12] Citing the lack of federal action, leaders like former California Governor Arnold Schwarzenegger chose to make action on climate change a central part of their political platforms. Schwarzenegger made climate change a priority during his tenure as governor and even after leaving office remains one of the world's leading advocates for policies to combat it.[13]

The extent to which these policies have succeeded in reducing individual states' emissions is up for debate. According to one analysis completed in 2010, state-level climate actions have reduced greenhouse gases by about a half a metric ton per person per year, about 2-3 percent of the 24 tons of emissions the average person produces every year due to their energy use, vehicle emissions and other activities.[14]

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[11]Pennsylvania Climate Action, Center for Climate and Energy Solutions, last modified August 2013, http://www.c2es.org/us-states-regions/action/pennsylvania.

[12] Richard Perkins and Eric Neumayer, "Does the 'California effect' operate across borders? Trading-and investing-up in automobile emission standards," *Journal of European Public Policy* 19, no. 2 (2012): 217-237.

[13] Protecting the Environment and Promoting Clean Energy, Arnold Schwarzenegger, last modified December 2013, http://www.schwarzenegger.com/issues/milestone/protecting-the-environment-and-promoting-clean-energy.

[14] William J. Drummond, "Statehouse Versus Greenhouse Have State-Level Climate Action Planners and Policy Entrepreneurs Reduced Greenhouse gas Emissions?" *Journal of the American Planning Association*, 76, no. 4 (2008).

Motivation, Leaders, and Avenues for State Action on Climate Change

A large body of the research on why the states would take these actions has been through the lens of a federalist, bottom-up approach. Some of the studies examined whether the primary motivators for states and local bodies to craft their own climate policies come from motivations like a desire to be economically competitive with other subnational governments,[15] while other research has focused on the ability of municipal governments to influence state policies.[16] Though the conclusions of these studies found there are tradeoffs to these approaches,[17] they argue that, in time, a federalist approach could yield policies that could be adapted to the national level with a federal policy establishing minimum standards for emissions and renewable energy that states could then decide to meet or exceed.[18]

Several studies have focused on the range of action local authorities can take on climate change and their cumulative impact. Dr. Rachel Krause at the University of Texas at El Paso found that the unique authority that subnational governments have over certain areas, including zoning, building codes, and land management, enables these bodies to take extensive action that cannot be taken at the federal level.[19] Her research also found that capacity – rather than outside political forces, organized interests and

[15] Kirsten H. Engel, "Whither Subnational Climate Change Initiatives in the Wake of Federal Climate Legislation?" *Publius* 39, no. 3 (2009): 432-454.

[16] Barbara Parsons Fenton, "The Effect of Municipal Initiatives on State Climate Change Plans," *Masters Abstracts International* 48, no. 01 (2010): 0188.

[17] Gabriel Weil, "Subnational Climate Mitigation Policy: A Framework for Analysis," *Colorado Journal of International Environmental Law & Policy* 23, no. 2 (2012): 285-307.

[18] Barry G. Rabe, "States on steroids: The intergovernmental odyssey of American climate change policy," *Review of Policy Research* 25, no. 2 (2008): 105-128.

[19] Rachel M. Krause, "Municipal Involvement in Climate Protection: Local Decision Making and Policy Innovation. A Dissertation," *Abstracts International: The Humanities and Social Sciences* 72, no. 10 (2012): 3916.

other factors – is primarily responsible for the extent of action that local bodies can take on climate change.[20]

Additional research has shown that organized citizens,[21] non-governmental organizations,[22] and other policy entrepreneurs play a crucial role in getting these policies passed. In the case of Connecticut, which enacted some of the first statewide climate policies in the country, one study found that policy entrepreneurs and their framing of the issue helped drive this action, but acknowledges that the unique nature of Connecticut politics (where the characteristics of state Republicans is far more centrist than in other parts of the country) played a large role in getting the policy passed.[23]

The Polarization of Climate Change

Another major factor to consider is how climate change itself became such a wedge issue in American politics, in part because of the communications barrier to educating and selling the public on the need to take action to combat climate change.

To combat climate change will require changes that could upset the economic and political balance of established systems for energy production, manufacturing, and urban development. These tradeoffs can be beneficial in the long run,[24] but the threat to those established interests has led different powers in politics, business, and society as a whole

[20] Rachel M. Krause, "Political Decision-making and the Local Provision of Public Goods: The Case of Municipal Climate Protection in the US," *Urban Studies* 49, no. 11 (2012): 2399-2417.

[21] Elaine B. Sharp, Dorothy M. Daley, and Michael S. Lynch, "Understanding Local Adoption and Implementation of Climate Change Mitigation Policy," *Urban Affairs Review* 47, no. 3 (2011): 433-457.

[22] Iati Iati, "The Potential of Civil Society in Climate Change Adaptation Strategies," *Political Science* 60, no. 1 (2008): 19-30.

[23] Mark A. Boyer, "Global Climate Change and Local Action: Understanding the Connecticut Policy Trajectory," *International Studies Perspectives* 14, no. 1 (2013): 79-107.

[24] Louise W. Bedsworth and Ellen Hanak, "Adaptation to Climate Change: A Review of Challenges and Tradeoffs in Six Areas," *Journal of the American Planning Association*, 26, no. 4(2010): 477-495.

to make climate change a wedge issue[25] that makes responding to it a matter of socioeconomic class[26] and a value judgment, rather than on scientific evidence alone.[27]

The polarization of the issue of climate change has pointed researchers to focus on the media narrative that helps drives citizens' "acceptance" of the phenomenon,[28] the two main tactics used by opponents to climate change action – distortion and provoking uncertainty about the science when the large majority of scientific research concludes it is a reality and a threat to the planet.[29]

This strategy has been effective, with research showing the U.S. media more likely to portray the issue of climate change as more controversial and uncertain than media in other developed countries.[30] Research published in *The Sociological Quarterly* in 2011 concluded that the politicization and polarization of climate change rose sharply between 2001 and 2010 in part because of political leaning of the news sources from which the public was receiving its information on climate change, concluding that "liberals and Democrats are more likely to report beliefs consistent with the scientific consensus and express personal concern about global warming than are conservatives and Republicans."[31] In fact, additional research exploring the messaging power that

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[25] Deborah Lynn Guber, "A Cooling Climate for Change? Party Polarization and the Politics of Global Warming," *American Behavioral Scientist* 57, no. 1(2013): 93-115.

[26] Thomas Laidley, "Climate, Class and Culture: Political Issues as Cultural Signifiers in the US," *Sociological Review*, 61, no. 1 (2013): 153-171.

[27] Karin Edvardsson Bjornberg and Sven Ove Hansson, "Five Areas of Value Judgment in Local Adaptation to Climate Change," *Local Government Studies*. 37, no. 6(2011): 671-687.

[28] P. Sol Hart and Erik C. Nisbet, "Boomerang effects in science communication: How motivated reasoning and identity cues amplify opinion polarization about climate mitigation policies," *Communication Research* (2011), doi: 10.1177/0093650211416646.

[29] Robert J. Hinrichs, "Arguing Global Warming: The Reception and Uses of Climate Change Science," *Dissertation Abstracts International, Section A: The Humanities and Social Sciences* 69, no. 09 (2009): 3393.

[30] Jacqueline M. Dispensa and Robert J. Brulle, "Media's Social Construction of Environmental Issues," *International Journal of Sociology and Social Policy* 23(2003):74–105.

[31] A. M. McCright and R. E. Dunlap, "The politicization of climate change and polarization in the American public's views of global warming, 2001–2010," *The Sociological Quarterly*, 52 (2011): 155–194.

proponents of action on climate change must harness in order to effectively fight back opponents notes that because the message of opponents to action on climate change is simplified, they've been able to be more effective in mobilizing disinterested and less educated citizens to oppose proposed action on climate change. [32]

The Right Policy Route for State Action on Climate Change

The scholarship focused on U.S. climate adaptation has focused mainly on a national solution and local responses, but research is lacking on a clear roadmap for other states to achieve these kinds of climate victories and what factors are necessary for those successes. This thesis aims to explore that question by analyzing the motivation behind the states' desire to pursue these policies, and the effectiveness of their chosen policy routes.

To explore this question, each of the three chapters will examine a different kind of climate policy at the state level, each of which had its own policy route. The first chapter examines the development and passage of California's climate law by its state legislature, the second will focus on a 2012 ballot initiative in Michigan to raise the state's renewable energy standard, while the third studies a California regulatory decision about whether to participate in a federal fuel economy and climate change emissions standards for new vehicles.

Each of this thesis's three chapters will discuss the policy itself, and how it benefits the climate, why and how the state sought this particular step, the deliberation over the policy, and the end result.

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[32] Caren Cooper, "Media Literacy as a Key Strategy Toward Improving Public Acceptance of Climate Change Science," *BioScience* 61, no. 3(2011): 231-237.

Understanding why and how these states pursued these policies but also the policy route they chose is critical to understanding whether other states – in the absence of federal action – are able to take their own action on climate change and, if so, what is the best path forward.

This thesis will be a useful contribution to scholarship on state-level climate change policies and their interaction with actions at the federal level. Specifically, this thesis will provide previously unexplored lessons about the particular policy routes that would be best for states interested in enacting their own climate policies. Understanding these policy routes would provide a detailed list of factors for state proponents of climate policies to consider before acting, as well as allow federal observers to better predict when a state would be poised and more likely to enact their own climate policy.

Chapter 1 – California's AB 32: A Case Study of the First U.S. Cap-and-Trade Policy Passed by a State Legislature

On Sept. 26, 2006, lawmakers, advocates, scientists and citizens from across the state of California stood under a grey sky on a shoreline along San Francisco's Treasure Island and watched Governor Arnold Schwarzenegger sign Assembly Bill 32 (AB 32), the landmark 2006 state law that enacted the country's first binding limit on emissions that contribute to climate change.[33] Proclaiming that the bill represents "a bold new era of environmental protection here in California that will change the course of history,"[34] the governor said AB 32 will help lower the climate change emissions that drive climate change from a state ranked the world's 8th largest economy as of 2014.[35]

What the governor signed into law was something that until recent years seemed impossible to establish in the United States: a climate law with enforceable limits for reducing greenhouse gas emissions and the authority to create a market for exchanging credits for those emissions reductions. The challenge was large for the state, which is responsible for 1.4 percent of the world's greenhouse gas emissions and 6.2 percent of the emissions generated in the United States, as was the scope of the proposal. The law called for the California Air Resources Board (CARB) to develop a plan that would reduce emissions in the state to 1990 levels – a 30 percent reduction – by 2020,[36] with the

[33] Assembly Bill No. 32 (Cal. 2006), http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf.

[34] Mark Martin, "Governor signs measure to cap greenhouse gas emissions -- sweeping changes predicted in industries and life in cities," *San Francisco Chronicle*, Sept. 28, 2010, http://www.sfgate.com/.

[35] Justin Garosi and Jason Sisney, "California is the World's Eighth Largest Economy," California Legislative Analyst's Office, December 4, 2014, http://www.lao.ga.gov.

[36] Climate Change Programs, California Air Resources Board, last modified Oct. 8, 2013, http://www.arb.ca.gov/cc/cc.htm.

longer-term goal established by executive orders from Schwarzenegger[37] and his successor Governor Jerry Brown[38] of an 80 percent reduction below 1990 levels by 2050.[39]

Since 2006, the state has made great strides toward this goal. It launched what it described as "the most comprehensive cap-and-trade program in the world"[40] in 2012, expanded its reach in 2014 when it officially linked up with Canada's Québec province's own program,[41] and continues to host regular credit auctions, despite several legal challenges and even an attempted repeal. In 2010, more than 60 percent of California voters rejected a ballot initiative known as Proposition 23 – backed largely by two Texas-based oil companies[42] -- that would have suspended the law until California's rate of unemployment was at or below 5.5 percent for four quarters in a row.[43]

This is not the first mandatory cap-and-trade program in the country. The Northeast's Regional Greenhouse Gas Initiative, or RGGI, was announced a year before and began emissions auctions in 2008. However, there is a key difference between it and AB 32 that sets the latter apart is its' supporters and opponents in the California Assembly and their respective allies had to make their case to the governor, industry,

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[37] California Climate Change Executive Orders, California Climate Change Portal, last modified April 25, 2012, http://www.climatechange.ca.gov/state/executive_orders.html.

[38] Edmund G. Brown Jr., "Executive Order B-16-2012," State of California, last modified March 23, 2012, http://www.ca.gov/.

[39] G. Stemp-Morlock, "Climate change. California's 2020 vision," *Environmental Health Perspectives* 117, no. 3 (2009): A103.

[40] State of California, *Climate Change Scoping Plan: First Update*, Prepared by the California Air Resources Board, October 2013.

[41] Auction and Reserve Sale Information, California Air Resources Board, last modified March 5, 2015, http://www.arb.ca.gov/cc/capandtrade/auction/auction.htm.

[42] California Proposition 23, the Suspension of AB 32 (2010), BallotPedia, accessed April 30, 2015, http://ballotpedia.org/.

[43] California's Proposition 23 -- The Dirty Energy proposition, Union of Concerned Scientists, accessed March 13, 2015, http://www.ucsusa.org/.

environmentalists, public health advocates, lawmakers, and the public before it could become a reality.

The bill was vague in its original form for how it would achieve its goal, merely setting a target for the state's emissions reductions that lined up with Schwarzenegger's executive order,[44] leaving legislators room to hammer out an equitable method for achieving these goals that would pass through the state Assembly and get the approval of the governor. The division for how to proceed fell in three distinct camps: those wanting a straight, binding cap on emissions with no market mechanism for trading (the argument being that a market would not achieve the reductions necessary); those wanting a voluntary reductions program with incentives for industries to reduce their emissions; and those wanting a cap-and-trade program that would set caps on emissions but allow polluters to trade emissions credits. The bill's authors originally leaned toward a straight cap on emissions[45] while Schwarzenegger remained neutral on the bill but indicated a preference for a cap-and-trade program.[46]

This law represents the successful passage and implementation of a legally binding policy to reduce the emissions that drive climate change through a deliberative, legislative process in a country where awareness of climate change as an issue and its perceived threat is lower compared to many other industrialized nations.[47]

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[44] Arnold Schwarzenegger, "Executive Order S-3-05," State of California, last modified June 1, 2005, http://www.dot.ca.gov/hq/energy/ExecOrderS-3-05.htm.

[45] Mark Martin, "Governor to focus on global warming, Critics question his resolve on an issue dear to green voters," *San Francisco Chronicle*, April 10, 2006, http://www.sfgate.com/.

[46] "Emissions-trading standoff threatens passage of GHG measure," *Inside Cal/EPA*, August 25, 2006, https://environmentalnewsstand.com/Inside-Cal/EPA/Inside-Cal/.

[47] Anita Pugliese and Julie Ray, "Gallup Presents…A Heated Debate," *Harvard International Review* 31, no. 3 (Fall 2009): 64-68.

But how AB 32 was able to cross the finish line when other proposals, including many at the national and international level, have failed requires an examination of the effectiveness of a cap-and-trade regime, why the state sought to take action on climate change, proponents' ability to push such an ambitious plan through a state legislature, and what policy entrepreneurs did to ensure the bill's success.

My hypothesis is that proponents took advantage of a unique moment in the state's political climate that included a pro-environment Republican governor and high political will to tackle climate change to successfully leverage passage of the bill.

The Rise of Cap-and-Trade

Long before California sough to curtail its contribution to climate with the enactment of AB 32, economists wrangled with the idea of an economic approach to reducing pollution. Since the 1950s, when the environmental impact of rapid economic growth was starting to be felt in air and water quality, economists have explored a market alternative to the binding caps on pollution. In 1960, economist Ronald Coase postulated that if property rights were made transferable, the market would determine the worth of these rights and they would naturally gravitate to their use.[48] Two economists, John Dales[49] and Thomas Crocker,[50] published papers that showed this theory's applicability

[48] R. Coase, "The Problem of Social Cost," *Journal of Law and Economics* 3 (October 1960): 1-44.

[49] J.H. Dales. *Pollution, Property and Prices (*Toronto: University of Toronto Press, 1966).

[50] T.D. Crocker, "The Structuring of Atmospheric Pollution Control Systems," *The Economics of Air Pollution,* (New York: W.W. Norton & Co., 1966).

to water and air pollution, respectively, and are generally credited for developing the intellectual framework for a system of emissions trading.[51]

This theory was expanded upon to a certain degree with changes to the implementation of the Clean Air Act. In the years following the enactment of the 1970 law, which expanded on the original 1963 law and imposed binding deadlines for regions to meet ambient air quality standards, it became clear that certain regions would not be able to reach the deadlines under the act and would be designated "nonattainment" regions, meaning that businesses that would create any emissions that would contribute to that status would be prohibited from moving into the region. To curtail backlash from mayors, governors, businesses, and members of Congress from these nonattainment regions, the U.S. Environmental Protection Agency (EPA) encouraged existing sources of pollution in these areas to voluntarily reduce their emissions and, once certified by the federal agency, could transfer the reductions as credits to new sources of pollution that wished to move into these areas. Those sources, however, had to attain enough credits so that their move into a nonattainment region would result in a lower total regional emissions than before they moved in. Economist Tom Tietenberg said that this system "not only allowed economic growth while improving air quality – the original objective – it made economic growth the vehicle for improving the air. It turned the problem on its head and made the problem part of the solution," [52] a solution the EPA would continue to

[51] Elizabeth Dickinson, "Capping It Off: How a concept became an environmental policy catchphrase," *Foreign Policy*, March/April 2010, http://www.foreignpolicy.com.

[52] Tom Tietenberg, "Cap-and-Trade: The Evolution of an Economic Idea," *Agricultural and Resource Economics Review* 39, no. 3 (2010): 359-367.

expand upon with a series of amendments to the Clean Air Act in 1977[53] and would soon be put to the test as the nation sought to address acid rain.

During the 1970s, researchers were observing a precipitous decline in plant and animal life in the eastern United States. Tree die-offs that would take entire forests, fish stocks in lakes nearly depleted, and other impacts were widespread across the region. Research showed that the high emissions of sulfur dioxide and to a lesser extent nitrogen oxides, both primarily generated by coal-fired power production and other industrial practices, was causing rain and snow to become more acidic, killing aquatic, plant, and animal life that came into contact with it.[54] Lawmakers, industry, and scientists debated how to combat this growing acid deposition, or "acid rain" as the phenomenon was commonly known. They debated between a straight, enforceable cap, a tax on the emissions themselves, and a trading system akin to how the EPA had administered its nonattainment regions. In 1980, Congress passed the Acid Precipitation Act, which set out a 10-year research effort to determine how best to respond to it. The result of that research and the advice of advocates like the Environmental Defense Fund was the 1990 update to the Clean Air Act, which included among other things a 10-million-ton reduction in sulfur dioxide emissions – about half of total emissions at the time – from 1980 levels, with 8.5 million tons of those reductions coming from electric utilities.[55] Polluters were given allowances for the emissions, but the act included a cap-and-trade

[53] History of the Clean Air Act, U.S. Environmental Protection Agency, last modified August 15, 2013, http://www.epa.gov/air/caa/amendments.html/.

[54] What is Acid Rain? U.S. Environmental Protection Agency, last modified December 4, 2012, http://www.epa.gov/acidrain/what/.

[55] Derek Winstanley, Robert T. Lackey, Walter L. Warnick, John Malanchuk, "Acid rain: science and policy making," *Environmental Science & Policy,* Volume 1, Issue 1 (March 1998): 51–57.

mechanism for polluting industries that lowered their emissions more than required to sell their additional allowances.

The results were impressive. Between 1990 and 2004, sulfur dioxide emissions dropped 36 percent even as coal-fired power plant energy production rose by 25 percent during that same period.[56] While ecosystem recovery can take decades to reveal itself, there is some initial evidence that those systems most impacted by acid rain are starting to recover. The benefits have been extensive for public health, with estimates showing the reduced particulates from sulfur dioxide pollution saving the country more than $50 billion per year in health costs by 2010. The program was implemented at a fraction of $25-billion-a-year cost the EPA originally estimated, with an industry organization and an independent think tank both estimating in 1998 the annual cost by 2010 to be less than $2 billion. "In sum, the [sulfur dioxide] allowance-trading system's actual costs, even if they exceeded the cost-effective ideal for a cap-and-trade system, were much lower than would have been incurred with a comparable traditional regulatory approach, and were much lower than the trading system's predicted costs," concluded researchers at the Harvard Environmental Economics Program in a policy brief on the success of the program, adding that "there is broad agreement that the [sulfur dioxide] allowance-trading system provided a compelling demonstration of the cost advantages of a market-based approach."[57]

[56] Gabriel Chan, Robert Stavins, Robert Stowe, and Richard Sweeney, *The SO2 Allowance Trading System and the Clean Air Act Amendments of 1990: Reflections on Twenty Years of Policy Innovation (*Cambridge, Mass.: Report for Harvard Environmental Economics Program, Harvard Kennedy School, January 2012), 14.

[57] Ibid, 9.

The success of the country's acid rain program remains the best example of a market-based solution backed by regulatory standards for achieving its environmental goal, a model that was later successfully used to help curb the emissions that created the hole in the ozone layer with the development of the Montreal Protocol.[58] The model seemed perfect for addressing the far-larger problem of reducing the emissions of carbon dioxide and other greenhouse gases that drive climate change. In 1997, shortly before countries around the world would meet in Kyoto, Japan to negotiate a binding international treaty to combat climate change, the Clinton administration unveiled an emissions trading proposal to broad support.[59] The negotiations were successful in Japan, with nearly all of the world's countries becoming parties to the Kyoto Protocol, an agreement placing limits on developed countries' emissions like the United States that are considered primarily responsible for the majority of the emissions in the atmosphere,[60] but despite the support the international community was throwing behind this treaty, it did not enjoy the same support in the United States Senate. By a vote of 95-0, the Senate passed a non-binding resolution against the protocol, stating that the Kyoto Protocol "would result in serious harm to the economy of the United States," among other potential harms.[61] Facing this kind of blanket opposition, President Clinton signed on to the treaty but never submitted it for ratification by the Senate. In 2001, President Bush withdrew the United States from the treaty altogether in favor of an alternative, voluntary

[58] The Evolution of the Montreal Protocol: The 1987 Montreal Protocol on Substances that Deplete the Ozone Layer, United Nations Environment Programme - Ozone Secretariat, accessed May 1, 2015, http://ozone.unep.org/new_site/en/Treaties/treaties_decisions-hb.php?sec_id=342.

[59] Peter Baker and Job Warrick, "Clinton Details Global Warming Plan," *Washington Post*, October 23, 1997, sec. A.

[60] Kyoto Protocol, United Nations' Framework Convention on Climate Change, last accessed May 1, 2015, http://unfccc.int/kyoto_protocol/items/2830.php.

[61] Byrd-Hagel Resolution, The National Center for Public Policy Research, last accessed May 1, 2015, http://www.nationalcenter.org/KyotoSenate.html.

proposal to provide tax credits for polluters that reduce their emissions through use of renewable energy.[62] This decision dimmed the prospects of a national cap-and-trade program that only once more came within striking distance with the failed 2009 House cap-and-trade bill.

California's Unique Place in Environmental Regulation

To understand how California was able to achieve a cap-and-trade bill despite many of the challenges that faced past climate policies requires an understanding of the state's unique role in the history of environmental issues, in particular the challenges and opportunities the state has encountered with air pollution. As the country's third-largest state by land mass and largest by population,[63] California has a rich array of environments ranging from snowy mountain ranges to sweeping farmlands to populous urban centers. But in 2006 the state was also home to five out of the 10 cities with the worst year-round particle pollution in the country,[64] and the state's environmental problems were even worse in past decades. To combat the stifling air pollution problem – the result of vehicle emissions, industrial operations and coal-fired power production – the state chose to move forward with its own environmental protections rather than wait for the federal government. In 1965, the state became the first in the nation to regulate smog-forming emissions from vehicles, and two years later created CARB, an 11-member department under the California Environmental Protection Agency tasked with

[62] Kelly Wallace, "Bush unveils voluntary plan to reduce global warming," CNN, February 14, 2002, http://cgi.cnn.com/2002/ALLPOLITICS/02/14/bush.global.warming/index.html/.

[63] Population of U.S. States by Largest Population, World Atlas of Travel, accessed on Dec. 5, 2013, http://www.worldatlas.com/aatlas/populations/usapopl.htm/.

[64] *State of the Air: 2006*. American Lung Association (2006).

working with businesses, local governments, and community groups to find solutions to California's air pollution problems.[65] Some scholars have since attributed the board's regulatory latitude as part of the reason for the state's climate successes.[66]

Recognizing the extent of California's air pollution problems, Congress granted the state the authority to set air pollution standards in excess of federal standards, an authority first introduced in the Federal Air Quality Act of 1967 and established as part of amendments to the Clean Air Act. With this authority, the state took steps to lower the particulate pollution produced by vehicles sold in the state. These standards became the basis for the first federal emissions standards in the 1970s, and several states – acting under a unique provision of the Clean Air Act – adopted California's standards over the federal minimums on vehicle emissions.[67]

Up until the early 2000s, the state's actions were largely focused at smog-form air particulates like sulfur dioxide and nitrogen oxides spewed by vehicles, but in 2002, Governor Gray Davis signed legislation to begin one of the first efforts a state had ever taken to mandate reductions in greenhouse gases like carbon dioxide that drive climate change. The law, AB 1493, called on CARB to develop limits for vehicles' greenhouse gas emissions starting with model year 2009. Eleven other states chose to adopt these standards. The legal wrangling to allow California – which had to seek permission from the EPA each time it wanted to exceed federal standards – to establish these standards, and the effort by it and other states to regulate greenhouse gases, was ultimately settled

[65] History of Air Resources Board, California Air Resources Board, last updated Nov. 16, 2010, http://www.arb.ca.gov/knowzone/history.htm/.

[66] Ann E. Carlson, "Designing effective climate policy: cap-and-trade and complementary policies," *Harvard Journal on Legislation,* 49, no. 2(2012): 207-248.

[67] C. W. Schmidt, "Environment: California Out in Front," *Environmental Health Perspectives*, 115, no. 3 (2007): 144.

by the Supreme Court's landmark 2007 ruling in *Massachusetts v. EPA.* The case centered on whether the EPA had the authority under the Clean Air Act to regulate greenhouse gas emissions. The EPA during the administration of President George W. Bush asserted that it did not have that authority, while Massachusetts and several other states and municipalities – including California – asserted that because greenhouse gas emissions and the climate change they drive present a serious threat to human health, they could be a classified as air pollutants and thus the agency has the ability and responsibility to regulate them under the Clean Air Act. The court sided with the states, writing in its ruling that "greenhouse gases fit well within the [Clean Air Act's] capacious definition of air pollutant."[68] The success of California, which was ultimately granted the authority by the EPA to regulate vehicles' greenhouse gas emissions in 2009 during the Obama administration after delays by the Bush administration's EPA, had put the state at the vanguard of combatting environmental problems, as well as made it an example for other states to follow. Even the federal government has taken its cue from California, working with the state to establish the first federal rise in fuel economy and emissions standards for new passenger vehicles in decades.[69] This regulatory route effort will be examined in a later chapter.

Part of California's success has come from the strong state identity of being a leader on environmental issues and from the advocates for those issues. Many nonprofits have focused their efforts in California in large part because a success in California – a state with the political will and regulatory ability to be a laboratory of democracy for

[68] *Massachusetts v. Environmental Protection Agency,* 549 U.S. 497 (2007).

[69] The National Program: Fuel Efficiency and Global Warming Pollution Standards, Union of Concerned Scientists, last modified March 2011, http://www.ucsusa.org/assets/documents/clean_ vehicles/UCS-The-National-Program.pdf.

innovative environmental policies – may serve as a template for success at the national level later.[70] Many had worked in the state for years to lay the groundwork for California's action in AB 32. In 1999, the Massachusetts-based Union of Concerned Scientists that just a few years before had established an office in Berkeley, California, issued a report entitled *Confronting Climate Change in California,*[71] the first in a series of reports that sought to demonstrate the effect climate change was having on the state and the necessity to confront it. The state's Resources secretary at the time said the report represented "solid science to confirm the existence of climate change and establish its relevancy to the state."[72] That same year, the state and 11 others would begin legal action to regulate carbon dioxide under the Clean Air Act, action that would eventually lead to the Supreme Court's *Massachusetts v. EPA* decision.[73]

The role of the state's leaders has been important, especially for AB 32 and action on climate change. Governor Davis, who served as governor from 1999 until he was recalled in 2003, had a strong track record on environmental issues during his tenure. In addition to laying the groundwork for the country's first vehicle greenhouse gas standards, under Davis tenure the state purchased 10,000 acres for urban parks and

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[70] Nina L. Hall, "Environmental Nonprofit Campaigns and State Competition: Influences on Climate Policy in California," *Voluntas: International Journal of Voluntary & Nonprofit Organizations*, 21, no. 1(2010): 62.

[71] Union of Concerned Scientists & Ecological Society of America, *Confronting Climate Change in California: Ecological Impacts on the Golden State*, Washington, D.C.: UCS November 1999.

[72] Nancy Cole and Susan Watrous, "Across the Great Divide: Supporting Scientists as Effective Messengers in the Public Sphere," *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change,* 1, no. 1(2007): 180.

[73] Dustin T. Till, "EPA Faces Rulemaking Petitions and Litigation As Greenhouse gas Endangerment Decision Nears," *Marten Law* newsletter, February 27, 2008, http://www.martenlaw.com/newsletter/20080227-ghg-endangerment#sthash.H6PIIllE.dpuf.

enacted legislation establishing a target for 20 percent of the state's energy to come from renewables by 2017.[74]

His successor, Governor Schwarzenegger, campaigned on addressing climate change and sought to take action in an area he saw the federal government lacking. He recruited California energy strategist Tom Tamminen to design a climate and energy plan during his campaign,[75] which served as the initial template for AB 32. After taking office, Schwarzenegger issued a series of executive orders related to tackling climate change, including promoting the use of clean vehicle technology and solar energy. In 2005, he issued an executive order that got the ball rolling on the state's climate change law. It established targets for reducing California's greenhouse gas emissions that called for emissions to fall to 2000 levels by 2010, 1990 levels by 2020, and finally 80 percent below 1990 levels by 2050.[76]

Introduction, Deliberation, and Passage

Despite the series of variables that favored passage of a strong climate change law in California, support for action was not universal when the bill was first introduced in early April 2006. Automakers had already been fighting the state's standards for regulating greenhouse gas emissions from vehicles, Republican lawmakers in the state assembly largely opposed the bill, and the fossil fuels industry and some business groups like the Chamber of Commerce were set to be some of AB 32 fiercest opponents. The

[74] California Renewables Portfolio Standard (RPS), California Public Utilities Commission, accessed on Nov. 27, 2013, http://www.cpuc.ca.gov/PUC/energy/Renewables/.

[75] Carme Wroth, "Terry Tamminen: Mastermind behind new energy laws," *OdeWire,* January/February 2010, http://odewire.com/53665/terry-tamminen-mastermind-behind-new-energy-laws.html/.

[76] Governor's Executive Order # S-03-05, California Climate Change Portal, accessed May 1, 2015, http://www.climatechange.ca.gov/state/executive_orders.html.

business community as a whole was split on the bill, with some seeing it as the genesis for a new wave of green technology and energy development that could bring money and jobs to the state, and others believing it would drive up costs and force companies and jobs out of California.

But what worked in AB 32's favor was its wider range of proponents. There were a large variety of policy entrepreneurs advocating for the bill, including the bill's authors – Assembly Speaker Fabian Nunez (D-Los Angeles) and Assemblywoman Fran Pavley (D-Woodland Hills) – environmentalists, utility spokespeople, economists, and public health advocates.

Schwarzenegger, though he remained publically neutral on the bill, stood a lot to gain from the bill's success. He was up for reelection that fall, and the passage of a comprehensive climate change bill would help boost his credentials with state voters, the majority of which typically vote Democratic.

With Democrats in control of both the state Assembly and Senate and a pro-business Republican in the governor's mansion, sponsors faced the Goldilocks conundrum, producing a bill strong enough to get the approval of Democratic bloc in both chambers but not so aggressive in its approach as to push Schwarzenegger into vetoing the law. The crux lies in forming a bill that would both satisfy the desires of environmentalists – who wanted ambitious targets backed by a strong regulatory power – and business leaders – who feared too strong of a bill would drive business out of state. A key element of the debate would be if and by how much the bill would rely on the issuing and trading of pollution credits that would allow companies that cleaned up their act to sell those credits to other companies so they would not have to reduce as much of their

own emissions. Schwarzenegger insisted a cap-and-trade scheme be a part of the bill, along with a provision granting the governor authority to suspend the program during times of emergency or economic downturn, but environmentalists were concerned that too much reliance on these credits would come at the expense of other, previously proven emissions-cutting steps like renewable energy technologies and conservation.[77]

While the actual deliberations over the final version of the bill that the state legislature would vote on were occurring behind closed doors, those same deliberations were also playing out in part in the public.

Proponents did not shy away from discussing the economic and environmental impacts climate change would have on the state. Upon introducing the legislation, Nunez told the *Contra Costa Times* that "if left unchecked, global warming threatens our air quality; it threatens our water supply; it threatens our coastlines, and our public health," adding that it "also threatens the reliability of our power grid and some of the state's largest and most important industries such as agriculture, skiing, forestry and tourism."[78] Opponents were not averse to evoking these themes either. A spokesman for the Chamber of Commerce told the *San Gabriele Valley Tribune* that "we fear it would have a very damaging effect on our state's economy with very little benefit for our global environment," adding that the bill would "increase energy costs dramatically."[79]

Both sides would use arguments about the economic impacts of AB 32 to put pressure on state lawmakers throughout the summer. In June, the California Chamber of

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[77] Marc Lifsher, "Emission Bill Sets Off Clash in Sacramento," *Los Angeles Times,* August 24, 2006, http://www.latimes.com.

[78] Edwin Garcia, "Bill targets greenhouse pollutants," *Contra Costa Times*, April 4, 2006, http://www.contracostatimes.com/.

[79] "Global warming bill draws mixed reviews," *San Gabriel Valley Tribune*, September 6, 2006, http://www.sgvtribune.com/.

Commerce, the California Manufacturers and Technology Association, and more than 20 other trade groups began running radio ads statewide telling lawmakers to oppose the bill,[80] while 44 of the state's top economists signed a joint letter urging the bill's passage, saying that climate change presents a serious, long-term economic threat and that taking action now would produce the best economic benefits for California.[81]

While talk of regulations and legal challenges had been routinely part of the arsenal for opponents of climate policies on the federal effort, they were key elements for both sides of the debate in California. Proponents were quick to argue that only with a strong regulatory structure would meaningful reductions in the state's emissions occur,[82] while opponents said the very same structure would drive business out of the state.[83] The emphasis on the regulatory aspects of AB 32 were consistent with concerns about regulation commonly echoed about environmental and other protections at the national level, but also were a reflection of the state's recent history with the deregulation of its energy markets attributed to the state's energy crisis in the early 2000s**.** Some business groups characterized the bill as being "full of public policy twists, turns and political guesswork that bode serious consequences for the state's economy and consumers – just like AB 1890, the poorly considered deregulation legislation that left us with the worst energy crisis in history not so long ago."[84]

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[80] Marc Lifsher, "Companies Resist Bid to limit Emissions," *Los Angeles Times*, June 26, 2006, http://www.latimes.com/.

[81] California Economists Urge Climate Action," Cater Communications, June 28, 2006, https://www.e2.org/ext/doc/CA%20Economists%20Urge%20Action%20PR.pdf/.

[82] Judy Lin, "More environmental bills on way," *Sacramento Bee*, September 10, 2006, http://www.sacbee.com/.

[83] Judy Lin, "California takes lead to cut greenhouse gases; Governor, Democrats reach pact," *Sacramento Bee*, August 31, 2006, http://www.sacbee.com/.

[84] Dan Walters, "Three big bills this year echo three bills that passed decade ago," *Sacramento Bee*, August 29, 2006, http://www.sacbee.com/.

Both sides recognized that – like with past environmental policies – California had a legacy of leading by example for the rest of the nation that needed to continue. This was not just because of the state's history as a leader on the environment but also an indictment against the federal government and its inability to take action in climate change. Speaking to the *Los Angeles Times* that August, Severin Borenstein - director of the University of California Energy Institute in Berkeley - said that "there are costs for reducing greenhouse gases, but if California can get on board, it might be able to demonstrate that those costs are not tremendously high … and the rest of the United States might follow along."[85] Even opponents were quick to point to California as a leader, though their framing was more about warning against the state setting a bad example for the rest of the country or otherwise interfering with what they saw was a problem in need of a national solution.[86]

Rarely was the actual science of climate change or partisan politics evoked during deliberations. Two reasons could account for this. First, the political makeup of the state was more inclined to act on environmental issues than on the national level – such as having the state's Republican governor championing action on climate change in general if not this bill specifically – made polarizing the issue as a Democrat-versus-Republican one less viable than it would be at the national level.[87] Second, the state's previous actions on climate change – including its actions to reduce emissions from vehicles and

[85] Marc Lifsher, "Hostile Climate Greets Governor's Plan to Save Earth; Environmentalists and businesses are cool to Schwarzenegger's global warming initiative," *Los Angeles Times*, August 14, 2006, http://www.latimes.com/.

[86] Cory Washington, "Spotlight: Industry Fights Emissions Bill; Bill Adds Costs, Won't Curb Global Warming, Manufacturers Say," *The Business Press*, August 14, 2006, http://www.pe.com/business/.

[87] Riley E. Dunlap and Araon M. McCright, "A widening gap: Republican and Democratic views on climate change," *Environment: Science and Policy for Sustainable Development* 50, no. 5 (2008): 26-35.

boost its clean tech industry – have established a precedent for the necessity to address the threat that was being targeted by AB 32.[88]

Proponents of the climate bill had public opinion on their side. That July, polling from the Public Policy Institute of California found that more than six in 10 Californians (63 percent) believed the effects of climate change was already underway, more than adults at the national level (58 percent).[89] Eight in 10 Californians also responded that climate change would be a very or somewhat serious threat to the future of California's way of life and economy. While less than half the respondents believed California's was doing a good job in responding to climate change, 65 percent of all adults and 70 percent of likely voters believed the state should enact its own policies on climate change, in large part due to low satisfaction with action at the federal level.[90]

Despite these varying arguments and large overall support for some kind of action on the part of the state, by the end of the summer, no clear consensus had come forward and the chance for a finalized bill – and Schwarzenegger's quest for reelection – were in doubt. The Legislature ended its session for the year on August 31, and a week before this deadline, Nunez said he and the governor's office we're still negotiating on the bill.[91] Some were questioning whether a final bill would happen or whether they would let the effort die, but less than 36 hours before the Legislature was expected to adjourn, the sponsors and the governor's office reached an agreement.[92] The bill required major

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[88] Eric Biber, "Cultivating a Green Political Landscape: Lessons for Climate Change Policy from the Defeat of California's Proposition 23," *Vanderbilt Law Review* 66, no. 2 (March 2013): 399-462.

[89] Special Survey on the Environment, Public Policy Institute of California, July 2006, http://www.ppic.org/content/pubs/survey/S_706MBS.pdf.

[90] Ibid.

[91] Marc Lifsher, "Emission Bill Sets Off Clash in Sacramento," *Los Angeles Times,* August 24, 2006, http://www.latimes.com.

[92] Judy Lin, "California takes lead to cut greenhouse gases; Governor, Democrats reach pact," *Sacramento Bee*, August 31, 2006, http://www.sacbee.com/.

industries to reach emission reduction targets though a combination of emissions credits trading and emissions-reduction technologies. The bill also directed CARB to develop and manage the cap-and-trade program. The administration had sought broad authority over the system under the bill, but the final version kept oversight solely with CARB. It did give the governor the authority to suspend the program under extreme circumstances, but only for a period of one year. On August 30th, the state Senate voted 23-14 to approve AB 32, followed by a 47-32 vote in the state Assembly the next day.[93]

Recommendations and Conclusion

In November 2012, after six years of scoping, development, and planning, California's cap-and-trade program officially went online and held its first emissions auction.

Policy entrepreneurs and other proponents of action on climate change hope these efforts will eventually link up with other regional schemes like RGGI and lay the foundation for what could eventually be a national system. Indeed, some scholars have said that this bottom-up approach is the only way to establish a system necessary to effect meaningful reductions in emissions nationwide.[94]

But if other states want to achieve similar action through their own legislatures, the lessons of AB 32 show that a number of different factors must line up to make a policy as aggressive and comprehensive as cap-and-trade a reality.

[93] California's AB 32, the "Global Warming Solutions Act of 2006," BallotPedia, accessed March 13, 2015, http://www.ballotpedia.org/.

[94] Barry G. Rabe, "States on steroids: The intergovernmental odyssey of American climate change policy," *Review of Policy Research*; 25, no. 2(2008): 105-128.

The first is political climate. The proposal came at a time when the majority of members in both legislative chambers were Democrats, and there was a Republican governor with the desire and will to move forward with an ambitious climate policy. It also came at a time when the political climate of the country as a whole was moving increasingly Democratic after six years of the George W. Bush presidency. The Republican Party held power in the White House and in Congress, and the public was increasingly pessimistic about the state of the environment and Republicans efforts to protect it. One survey showed just 21 percent of Americans approved of the president's handling of the environment, and just 15 percent approved of Congress's handling of it.[95] This public sentiment against Washington made for prime opportunity for a state to take its own action.

The second is the proper groundwork. While California has always been more aggressive on environmental protections than most states, it is unlikely that sponsors would have been able to propose this without all the work that was done in advance. For California, that included former Governor Davis's law calling on the state to reign in carbon emissions from vehicles, establishing that the state wanted to make addressing climate change a priority. Schwarzenegger's executive orders then cleared the way for the state to take action through the legislature. Amidst these two major actions was a consistent drumbeat for years by environmental groups, health experts, scientists, economists, and everyday citizens issuing reports, running public forums, and elevating this issue within the state. If a state is going to take such an aggressive action, citizens

[95] "Poll: Americans remain pessimistic about environment, desire prompt action," Stanford News, last modified October 3, 2007, http://news.stanford.edu/news/2007/october3/reportcard-100307.html.

and lawmakers need to feel that is the natural product of a long and thorough discussion about what needs to be done.

The third is the willingness of both sides to compromise. When dealing with a sweeping policy that would impact every person and interest in California, the most ardent advocates of a climate bill wanting a straight cap on emission and the most ardent critics wanting voluntary, market-based reductions are never going to find themselves at a place where one is happy to go along with the other. The ability for both sides to come to an equitable agreement that includes elements of, if not all of, both sides demands allowed for not only the bill's passage, but a shared ownership of AB 32 and its future.

The fourth is timing. The economy was in a relatively good place, making such an ambitious plan more palatable to a public that –regardless of political persuasion – is generally adverse to what could be a large and costly government venture. Public awareness about the impacts of climate change was high at the time amongst California voters,[96] Former Vice President Al Gore's documentary *An Inconvenient Truth* came out earlier that summer, and the Supreme Court decided that June to hear *Massachusetts v. EPA*. These and other factors, though not all necessary, helped build a sense of awareness and urgency to addressing climate change.

Ultimately, however, it may come down to political will. California has always had the will to address its own environmental problems. Capitalizing on that theme, for both the bill's sponsors and the governor, made leading on addressing climate change not just a matter of urgency but also of pride. As Schwarzenegger said after he left office about California's climate leaders: "We've always tried to show leadership on the

[96] Special Survey on the Environment, Public Policy Institute of California, July 2006, http://www.ppic.org/content/pubs/survey/S_706MBS.pdf.

subnational level. Since the United States was not coming to agreement on anything, we didn't want to wait. So we moved. But it's not something that is for 38 million people. It's supposed to have an effect worldwide. Because if we do well as a subnational government, then other governments are going to feel that they can also venture out and be more independent, and not wait for their capitals to create action."[97]

[97] Coral Davenport, "Arnold Schwarzenegger: Terminator, Body-Builder, and Global Leader on Climate-Change," *National Journal*, December 30, 2012, http://www.nationaljournal.com/energy/arnold-schwarzenegger-terminator-body-builder-and-global-leader-on-climate-change-20121230.

Chapter 2 – The Defeat of Michigan's 2012 Renewable Energy Proposal: A Case Study on Constitutional Amendments as a Policy Route for Combatting Climate Change

One of the most popular policy routes that states have chosen to reduce their emissions –a renewable energy standard (RES) – was put to Michigan voters in 2012 when they were asked to approve a statewide mandate for a significant portion of the power generated in the state to come from renewable sources such as wind and solar. That mandate would come via Proposal 3, an item on the ballot that fall to add an amendment to the Michigan constitution requiring the state's utilities to obtain 25 percent of their power from renewables by 2025.

In the months leading up to the November 2012 election, proponents of renewable energy seemed well positioned to pull off an upset. Despite early doubts that proponents could even get the proposal on the ballot, Proposal 3 was not only being put to the voters for consideration on Election Day but appeared headed for success. A poll taken that September showed 55 percent of Michigan voters polled supported the proposal, while 34 percent were against it and 11 percent remained undecided.[98]

The stakes were high for Proposal 3, one of the most high-profile environmental ballot items Americans would vote on during that presidential election year. For those outside Michigan, the proposal was a test of whether state voters could successfully enact a RES via a voter-approved amendment to a state constitution at a time when many state

[98] Chuck Stokes, "Exclusive WXYZ Poll: Michigan majority supports Props 3, 4, & 5," WXYZ Detroit, September 13, 2012, http://www.wxyz.com/news/political/exclusive-wxyz-poll-michigan-majority-support-props-3-4-5/.

legislatures were hesitant or outright hostile toward such standards, an opposition often stoked by right-leaning political groups like the American Legislative Exchange Council that actively sought to block these proposals at the state level.[99]

Proponents were optimistic, but as Election Day approached, the tides had turned against Proposal 3, with one poll finding only 35 percent of residents supporting it with 55 percent against, a near-complete flip from three months before.[100]

Despite early support by voters, by the time the polls closed on Nov. 6, 64 percent of Michigan voters chose to reject the proposed amendment.[101]

Some attributed the sheer difference in spending by the two sides as the primary reason for the measure's failure. Proposal 3 would become the second-most expensive ballot initiative in Michigan that year. Proponents of the measure – organized under the coalition "Michigan Energy, Michigan Jobs" that included a wide array of environmental groups, trade associations and labor unions – raised nearly $14 million through the course of the election, according to the Michigan Campaign Finance Network.[102] Despite this sizable war chest, opponents to Proposal 3 had more funds at their disposal. Operating under the name "Clean Affordable Renewable Energy (CARE)," state utilities like DTE

[99] Suzanne Goldenberg and Ed Pilkington, "ALEC's Campaign Against Renewable Energy," *Mother Jones*, December 5, 2013, http://www.motherjones.com/environment/2013/12/alec-calls-penalties-freerider-homeowners-assault-clean-energy/.

[100] Paul Egan, "Poll: Renewable energy, tax-vote proposals likely to fail," *Detroit Free Press*, October 31, 2012, http://www.freep.com/article/20121031/NEWS06/121031073/Poll-Renewable-energy-tax-vote-proposals-likely-fail.

[101] "Michigan Proposal 3 Results: State Rejects Renewable Energy Proposal," *Huffington Post*, November 7, 2012, http://www.huffingtonpost.com/2012/11/07/michigan-proposal-3-results-2012-energy_n_2080329.html.

[102] "MI ballot committees raised $154.3 million in Campaign 2012," *Michigan Campaign Finance Network Press Release* (December 14, 2012).

Energy and Consumers Energy along with other members of the energy and manufacturing industries spent more than $25 million to defeat Proposal 3.[103]

Despite this huge inequity in spending, most commentators noted that it was not the merits of Proposal 3 that sealed its fate but its method. While voters may have wanted more renewable energy and the benefits that come with them, they were not ready to change the state constitution to do so. As the *Detroit Free Press* said in its editorial opposing Proposal 3, "almost everything about this plan is admirable except the idea of locking it into the state Constitution."[104]

It would be easy to say that the proponents were simply outgunned by a better-financed utility industry, but if a majority of the state was supporting a constitutional amendment just a few months before, how did things turn around so much and how can other states avoid the same mistakes?

The answer lies in how useful an RES is for combatting climate change, the route by which proponents sought to enact this RES, the utility of using a state's constitution to change energy policy, how well both sides made their respective cases and how those arguments played out with the voters in Michigan.[105]

My hypothesis is that supporters were not able to effectively demonstrate to voters that amending the state's constitution was the only way to achieve the renewable energy goals proposed in the ballot initiative.

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[103] Ibid.

[104] "Detroit Free Press Endorsements: Of the six statewide ballot proposals, keep one, discard five," *Detroit Free Press*, Oct. 21, 2012, http://archive.freep.com/article/20121021/OPINION01/310210022/Detroit-Free-Press-Endorsements-Of-the-six-statewide-ballot-proposals-keep-one-discard-five.

[105] Craig M Burnett and Mathew D. McCubbins, "When Common Wisdom Is Neither Common nor Wisdom: Exploring Voters' Limited Use of Endorsements on Three Ballot Measures," *Minnesota Law Review* 97, no. 5 (2013).

Background on Proposal 3 and the History of Renewable Energy Standards

Just four years before Michigan voters would choose to reject Proposal 3, the state legislature passed a law calling for Michigan's utilities to generate 10 percent of their electricity from renewables by 2015.[106] Observers attributed this standard to the surge not just in Michigan's renewable energy generation but also the benefits that came with it**.** As of 2012, the state got 5.4 percent of its power from renewable sources – up from 1 percent in 2008 when the law was passed – and is expected to easily meet its 2015 deadline.[107] The Michigan Public Service Commission estimates that the standard has brought $2.2 billion in new investment to the state through 2013 while generating thousands of new jobs, mostly in the wind industry. Meanwhile, most state utilities – thanks to the lowering costs of deploying this technology – have eliminated their initial surcharge to consumers to pay for the new generating capacity.

Still, of the 29 states that by 2012 had instituted a RES of some kind, Michigan's was among the lowest,[108] and Proposal 3 sought to change that. The potential benefits and costs of increasing the state requirement to 25 percent varied widely, depending on who was asked. One study from the pro-Proposal 3 Michigan Environmental Council found that the measure would cost ratepayers an additional 50 cents per month – far below the 1 percent cap on rate increases included in the amendment – while stabilizing and reducing

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[106] Renewable Energy, Michigan Department of Licensing and Regulatory Affairs' Public Service Commission, last modified March 3, 2014, https://www.michigan.gov/mpsc/0,4639,7-159-16393---,00.html.

[107] *2013 Report on the Implementation of P.A. 295 Utility Energy Optimization Programs*. Michigan Public Service Commission and the Michigan Department of Licensing and Regulatory Affairs, (November 26, 2013).

[108] Jim Malewitz, "On the Ballot (And in the Constitution?): Michigan's Energy Future," *Stateline*, November 5, 2012, http://www.pewstates.org/projects/stateline/headlines/on-the-ballot-and-in-the-constitution-michigans-energy-future-85899427718.

rates in the long term.[109] Another report from the Mackinac Center for Public Policy – a conservative think tank in Michigan – found rates would go up between 7-8.6 percent.[110] A third study funded by neither opponents nor proponents of Proposal 3 found that – depending on how it would be implemented if passed and the fate of federal renewable energy subsidies – the rates would rise anywhere between 3-11 percent.[111]

"It seems to be considerably less exciting than all the drama on either side. It's not going to bankrupt Michigan and it's not free either," said Elisabeth Moyer, director of the University of Chicago's Center for Robust Decision Making on Climate and Energy Policy and author of the third report.[112]

As of December 2012, just a month after Proposal 3 failed, 29 states and the District of Columbia had some form of an RES.[113] Generally, these policies are similar in design: a requirement for retail electric suppliers and utilities in that state to provide a certain amount of renewable energy by producing it themselves or bringing it in from other states, some form of a credit program so utilities with higher renewable energy production can trade extra credits with utilities that are not in compliance with the standard, and some form of penalty for those utilities that do not comply.

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[109] Martin R. Cohen and George E. Sansoucy, *25 percent by 2025: The Impact on Utility Rates of the Michigan Clean Renewable Electric Energy Standard* (Michigan Environmental Council, October 2012).

[110] David G. Tuerck, Paul Bachman, and Michael Head, *The Projected Economic Impact of Proposal 3 and Michigan's Renewable Energy Standard*, (Mackinac Center for Public Policy, September 24, 2012).

[111] Elisabeth Moyer, Sean Johnson, Lexie Goldberger, and Joe Zhu, *Feasibility and Implications of the Michigan 2012 Proposal 3 for a 25 percent State Renewable Portfolio Standard* (University of Chicago's Center for Robust Decision-making on Climate and Energy Policy, 2012).

[112] Melissa Anders, "Rhetoric 'overblown' over cost of Proposal 3's renewable energy mandate, researcher says," MLive, October 26, 2012, http://www.mlive.com/politics/index.ssf/2012/10/michigan_renewable_energy_mand.html.

[113] "Renewables: Energy You Can Count On," Union of Concerned Scientists, last modified May 2013, http://www.ucsusa.org/.

Aside from those principles, the standards and goals are as varied as the states that instituted them. Some set percentage requirements, while others called for a minimal number of megawatts of generation. Some set smaller goals in the short term like Michigan, while other states like Hawaii set a longer and larger goals.[114] Some included provisions for energy efficiency and credits for existing renewable energy generated in the state, while others prohibited utilities from passing the cost of compliance to the customer.

Michigan's Proposal 3 was somewhere in the middle with its goal and had many of the common RES requirements. According to the language as it appeared on the ballot, the measure – if it passed – would "require electric utilities to provide at least 25 percent of their annual retail sales of electricity from renewable energy sources, which are wind, solar, biomass, and hydropower, by 2025; a limit of no more than a 1 percent per year electric utility rate increases charged to consumers to comply with the RES; allow annual extensions of the deadline to meet the 25 percent standard in order to prevent rate increases over the 1 percent limit; and require the legislature to enact additional laws to encourage the use of Michigan made equipment and employment of Michigan residents."[115]

Most other states' renewable energy policies came from their state legislatures, though some came initially through regulatory action as was the case in New York and Arizona.[116] Colorado's RES was the first in the country to come to fruition through

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[114] Renewable Energy, Michigan Department of Licensing and Regulatory Affairs' Public Service Commission, last modified March 3, 2014, https://www.michigan.gov/mpsc/0,4639,7-159-16393---,00.html.

[115] "Initiatives and Referendums Under the Constitution of the State of Michigan of 1963," Michigan Department of State, Bureau of Elections, May 16, 2013.

[116] Galen Barbose, "Renewable Portfolio Standards in the United States: A Status Update," Presentation at 2012 National Summit on RPS, Washington, DC, December 3, 2012.

popular vote. In 2004, at a time when the traditionally red state was turning more of a shade of purple (President Bush won the state that election with just 52 percent of the vote while voters elected the state's first Democratic senator since 1993), [117] voters approved Ballot Initiative 37, which required utilities in the state to generate 3 percent of their power from renewable sources like wind and solar by 2007 and increase that ratio to 10 percent by 2015.

"Reducing our nation and our state's reliance on foreign energy is an issue that should cross all party lines," state Rep. Lola Spradley, a Republican whose renewable energy bill earlier that year was the fourth of its kind state lawmakers had rejected, said after the ballot measure's passing.[118]

But how effective is a state-level RES at expanding renewable energy production and in some small way reducing humanity's contribution to climate change? The conclusions of research on the effectiveness of different renewable energy policies have varied but in general have found a positive correlation between a state policy or law and the expansion of renewable power sources in the state.[119] These policies are often more effective for expansion than other methods like electric retail choice programs provided by state energy restructuring, both of which can actually have a negative effect on clean energy growth in a state.[120] However, other research found that while an RES is effective in helping expand overall renewable energy generation in a state, it may not significantly

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[117] Colorado 2004 Election Results, CNN.com, last modified November 2, 2004, http://www.cnn.com/ELECTION/2004/pages/results/states/CO/.

[118] Jesse Broehl, "Colorado Voters Pass Renewable Energy Standard," *Renewable Energy World*, November 3, 2004, http://www.renewableenergyworld.com/rea/news/article/2004/11/colorado-voters-pass-renewable-energy-standard-17736/.

[119] Haitao Yin and Nicholas Powers, "Do state renewable portfolio standards promote in-state renewable generation?" *Energy Policy* 38, no. 2 (2010): 1140-1149.

[120] Fredric C. Menz and Stephan Vachon, "The Effectiveness of Different Policy Regimes for Promoting Wind Power: Experiences from the States," *Energy Policy* 34, no. 14 (2006): 1786-1796.

increase the ratio of renewable energy to other sources in a state's total energy portfolio.[121]

As a climate policy, research has shown an RES to have some effectiveness for reducing emissions, but may not be as effective at combatting climate change as a national carbon limit or tax.[122] The design of the RES is also an important factor in the expansion of renewable energy in a state, with one study finding that including existing renewable sources in a state under an RES can actually discourage new development if the parameters of the proposed RES are already being largely met it.[123]

The effectiveness of any of these policies, if enacted, depends on the different contexts – including social, political, and natural resource availability – they are adopted.[124] But research also shows political climate and support for the policies may threaten the effectiveness of even a well-designed policy, regardless of whether it passed through regulation, state legislative action, or the voters.[125] Even if there is a desire and opportunity to pass a RES, responding to climate change may not be an explicit reason for doing so. Often, these policies are proposed and adopted with a variety of focuses, most notably job growth and non-climate focused environmental issues like clean air or water. As one scholar noted about the 2008 Michigan RES adoption, improved air quality

[121] Sanya Carley, "State Renewable Energy Electricity Policies: An Empirical Evaluation of Effectiveness," *Energy Policy* 37, no. 8 (2009): 3071-3081.

[122] Karen Palmer and Dallas Burtraw, "Cost-Effectiveness of Renewable Electricity Policies," *Energy Economics* 27, no. 6 (2005): 873-894.

[123] Gireesh Shrimali and Joshua Kniefel, "Are Government Policies Effective in Promoting Deployment of Renewable Electricity Resources?" *Energy Policy* 39, no. 9 (2011): v4726-4741.

[124] Magali A. Delmas and Maria J. Montes-Sancho, "US State Policies for Renewable Energy: Context and Effectiveness," *Energy Policy* 39, no. 5 (2011): 2273-2288.

[125] Ryan Wiser, Kevin Porter, and Robert Grace, "Evaluating experience with renewables portfolio standards in the United States," *Mitigation and Adaptation Strategies for Global Change* 10, no. 2 (2005): 237-263.

was the law's fourth expressed purpose, while climate change is not mentioned."[126] This tactic seems to have been embraced by the authors of Proposal 3, who focused less on environmental benefits and more on protections for ratepayers and ensuring the technology needed to meet the standard be developed in the state.[127]

But what motivates a state to adopt an RES, and why would proponents choose to go the voter route? One set of research examined the motivation behind a state adopting an RES by testing whether a state's likelihood to adopt such a policy was driven and could be predicted by the internal determinants model, meaning state policy driven by the state's own characteristics, or regional diffusion, meaning the state's decision to adopt the standard is influenced by neighboring states taking similar action. The research showed that the internal determinants of the state – including degree of civil liberalism, air quality, and ability to capitalize on renewable energy sources like wind and solar – were a better indicator of adopting a standard than regional diffusion. **[128]**

Another study found that high rates of education followed by political party and gross state product were likely to have the largest impact on whether a state would adopt an RES.[129]

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[126] R. Schmalensee, "Evaluating Policies to Increase the Generation of Electricity from Renewable Energy," (M.I.T. Center for Energy and Environmental Policy Research Working Paper 2011-008, Cambridge, MA, 2011).

[127] "Initiatives and Referendums Under the Constitution of the State of Michigan of 1963." Michigan Department of State, Bureau of Elections. May 16, 2013.

[128] Daniel C. Matisoff, "The Adoption of State Climate Change Policies and Renewable Portfolio Standards: Regional Diffusion or Internal Determinants?" *Review of Policy Research* 25, no. 6 (2008): 527-546.

[129] Ming-Yuan Huang, Janaki RR Alavalapati, Douglas R. Carter, and Matthew H. Langholtz, "Is the choice of renewable portfolio standards random?" *Energy Policy* 35, no. 11 (2007): 5571-5575.

State Constitutions as a Policy Route for Climate Change

For Proposal 3, pushing the higher renewables standard through an amendment to the state constitution was a means to circumvent a state legislature that was largely resistant to boosting the existing RES requirement. In Michigan, a state citizen can initiate a proposed state statute, but even if that citizen gets enough signatures, it still must go to the state legislature, which then must adopt it within 40 days.[130] If the legislature rejects the bill or takes no action, it then appears on the next general election ballot. The legislature could also opt instead to propose an alternative version of the proposal, after which both proposals are put to voters on the next general election ballot, leaving proponents with having to manage two different proposals, one of which may be considerably weaker. But with a constitutional amendment, which has a much higher threshold of signatures to get on the ballot (equivalent to 10 percent of the total votes cast in the last election for governor as opposed to 8 percent for statutes) a single, voter-driven proposal is put directly to the people.

It was still, nonetheless, a gamble, one that was contingent in how much citizens would be willing to change the state's must foundational document. The state periodically reconsiders its constitutions and on three previous occasions has adopted new versions since its founding in 1835. [131] Its fourth and current constitution as of 2012 was adopted in 1963 and includes 12 articles touching on basic rights, structure of government, education, and taxation. Since its adoption, 36 out of 81 proposed

[130] Laws governing the initiative process in Michigan, Ballotpedia.com, last modified April 25, 2014, http://ballotpedia.org/Laws_governing_the_initiative_process_in_Michigan.

[131] A Brief Michigan Constitutional History, Citizens Research Council of Michigan, last modified February 2010, http://crcmich.org/PUBLICAT/2010s/2010/rpt36002.html/.

amendments[132] have been added to Michigan's constitution, spanning issues ranging from trial by jury to the sale of lottery tickets.

In 2012, voters were asked to add five amendments to Michigan's constitution, more that had ever been considered in any past election since its adoption in 1963. Along with Proposal 3, the amendments on the ballot included a proposal allowing employees to organize and collectively bargain as unions and another requiring a majority of state voters to consent to the construction of new international bridges and tunnels from the state to Canada.[133]

The nature of state constitutions has changed since the country's founding, evolving from broad, vague statements of principles to specific, prescriptive documents. Michigan and 17 other states permit citizens to amend their state constitutions via ballot initiatives,[134] but beyond the varying number of steps each state requires before an initiative can appear on the ballot, since they are driven by citizens, they constitute a form of direct democracy. Direct democracy as a tool in the citizenry toolbox is a relatively new development for Americans, first gaining steam in the early 20th century. In 1911, California became the first state to adopt a ballot-initiative process.[135] Because the structure of both the states and federal governments are based on a democratic republic model, whereby citizens elect lawmakers to act on their behalf in most matters, the role of this kind of direct democracy is often debated.

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[132] State of Michigan, *Michigan Manual 2011-2012* (Lansing, MI, 2012), 94.

[133] "All Six Michigan Ballot Proposals Go Down In Defeat," CBS Detroit, November 7, 2012, http://detroit.cbslocal.com/2012/11/07/all-six-michigan-ballot-proposals-go-down-in-defeat/.

[134] Amending State Constitutions, BallotPedia, accessed March 14, 2015, http://ballotpedia.org/Amending_state_constitutions/.

[135] Peter Bozzo and Andrew Irvine, "The Dangers of Direct Democracy," *Harvard Political Review*, June 1, 2010, http://harvardpolitics.com/united-states/the-dangers-of-direct-democracy/.

Detractors contend that without the filter of a representative body, states are more vulnerable to drastic and sometimes ill-conceived policy changes. James Madison himself noted in Federalist 63 that the major distinction between American democracy and the classical democracies of ancient Greece "lies in the total exclusion of the people, in their collective capacity."[136] In some cases, the whims of voters may hinder the progress a society is slowly making on crucial issues. One analysis, focusing on the higher use of civil rights-focused voter initiatives in the latter half of the 20th century, found that these referendums were widely used to restrict civil rights at a time when support of these rights – including gay rights, housing rights, and the rights of persons with AIDS – was growing. The analysis found that of the 74 initiatives on state and local ballots throughout the country between 1959 and 1993 that sought to restrict these civil rights initiatives, 78 percent were approved even though voters only approved of a third of all initiatives and referenda – civil rights-focused or otherwise – proposed during the same time period.[137]

The stakes are even higher when considering an amendment to the state's constitution, as one researcher noted, in part because voters may not have the capacity to properly interpret and consent to a proposal that could have serious constitutional ramifications for the state. The researcher argued that, in order to prevent such constitutional crises and overcome inherent electoral problems like low-voter turnout, the process for voter-driven amendments to a state constitution should be more cumbersome so as to make the process more deliberative and better reflective of the popular will of all

[136] James Madison, "Federalist 63," *Alexander Hamilton, John Jay, and James Madison, The Federalist, ed. George W. Carey and James McClellan (Indianapolis, IN.: Liberty Fund)* (1787): 325-32.

[137] Barbara S. Gamble, "Putting civil rights to a popular vote," *American Journal of Political* Science 41, no. 1 (1997): 245-269. Business Source Complete, EBSCOhost (accessed March 14, 2015).

a state's citizens rather than just those highly motivated individuals who pushed for these proposals.[138]

Supporters say voter initiatives and other forms of direct democracy are essential to our democracy as a whole, especially when those elected to represent voters' interests stop doing so. As Harvard political scientist William Munro noted during the rise of direct democracy in the United States, "The first argument in favor of direct legislation rests, accordingly, upon the allegation that existing legislative methods and results are unsatisfactory to the majority of the electorate; that representatives do not properly represent."[139]

Proponents said that it was the very lack of responsiveness by the governor and the state legislature that was a major driver behind Proposal 3. As one observer wrote about a 2006 RES initiative in Washington state, this tactic of voter-driven initiatives to address environmental and other concerns is most common when the "controlling government fails to address pressing concerns, addresses concerns at a gradual rate that renders any action ultimately ineffective, or enacts legislation that simply fails to adequately address popular concerns."[140] This approach seems all the more necessary as some research suggests that even if voters take on an issue through an initiative, amendment, or other direct measure – whether they succeed or not – it is not likely to make lawmakers' more responsive to policy needs like addressing climate change.[141]

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[138] Michael G. Colantuono, "Revision of American State Constitutions: Legislative Power, Popular Sovereignty, and Constitutional Change, The." *Cal. L. Rev.* 75 (1987): 1473.

[139] J. Allen. Smith, "The initiative, referendum and recall," Edited by William Bennett Munro, New York: D. Appleton and Company. (1912): 745-746.

[140] Paul D. Trumble, "Washington State's Initiative 937 and the Environment: The Emerging Impact of Grassroots Movements on National Policy," *Albany Law Review* 70, no. 3 (2007): 1089-1092.

[141] Edward L. Lascher Jr. and Michael G. Hagen, "Gun behind the door? Ballot initiatives, state policies and public opinion," *Journal of Politics* 58, no. 3 (1996): 760.

But despite proponents believing that lawmakers were not responding to what they perceived as a major threat to the state, pushing their proposal via the constitutional amendment route would prove to be a costly and ultimately fruitless endeavor.

The Campaign for and Defeat of Proposal 3

At its core, the defeat of Proposal 3 laid in proponents' inability to successfully argue why amending the state constitution was the only way to increase Michigan's renewable energy requirements. This did not mean that voters were against the principles of Proposal 3, indeed, there was broad support by voters that year for renewable energy. The American Wind Energy Association – the wind industry's national trade group – released exit polling that showed that of those who voted against Proposal 3, only 1 percent of those polled were actually opposed to expanding renewable energy production in the state but 60 percent did not want to change the state constitution to get that additional energy.[142]

Three findings from the campaign of Proposal 3 provide some understanding for why voters decided to reject the ballot initiative. The first was that proponents were very narrow in their messaging, making a concerted effort to focus on the economic benefits of Proposal 3 and not actively focus on either the environmental benefits of the standard or the necessity for a constitutional amendment. The second was that the opposition was able to position itself as being in favor of renewable energy – though concerned with the technical feasibility of expanding beyond the existing RES – while framing the debate on

[142] "Proposal 3 caught up in macro-political forces," *Western Michigan Environmental Action Council Blog*, Nov. 14, 2012, http://thewmeacblog.org/2012/11/14/proposal-3-caught-up-in-macro-political-forces/.

whether it was appropriate to use a constitutional amendment to advance this kind of policy. This move, as the third finding reveals, left proponents unprepared for how to counter the opposition's constitutional argument and make the case that Proposal 3 was a better course of action for raising the state's RES rather than by going through the state legislature.

The first finding about the economic argument proponents would focus on through their campaign is evident in one of the first major comments by the spokesperson for the coalition supporting the proposed amendment, Mark Fisk, just after the Michigan Board of Canvassers' certified that Proposal 3 would be on the ballot that fall.

"Michigan voters are one step closer to supporting a proposal that will create 94,000 Michigan jobs, rebuild Michigan manufacturing, protect public health and get Michigan's economy moving forward again," he said. "Michigan is falling behind in the clean energy race while other states are moving forward and attracting good manufacturing jobs. By passing this proposal, Michigan can compete for those jobs and put our citizens back to work."[143]

This strategy extended beyond the bill's primary supporters to outside validators, including former President Bill Clinton, who cited the economic benefits to Michigan and the need to keep it competitive against other states with more aggressive renewable energy policies.[144]

Even proponents that were plainly environmental in nature kept their public support of Proposal 3 on these themes. Hugh McDiarmid Jr., communications director of

[143] Jennifer Yachnin, "Michigan OKs Nov. vote on new standard for utilities," *E&E News*, August 15, 2012, http://www.eenews.net/eenewspm/stories/1059968839/.

[144] "Clinton backs Michigan renewable energy proposal," Associated Press, October 27, 2012, http://www.ap.org/.

the Michigan Environmental Council, said that "renewable energy is a growth industry globally, nationally and in Michigan. Michigan has the talent, manufacturing capacity and skills to be a national leader in this field."[145] While an implicit connection can be made that an organization like McDiarmid's would support something like Proposal 3 for its environmental benefits, it reveals a concerted effort by proponents to stay away from themes like the environment that have traditionally been very polarizing and instead have a narrowly focused message that focused almost exclusively on Proposal 3's economic potential almost entirely on the economy. This narrow focus also included very little discussion by proponents about using the state constitution to achieve their objective.

The problem, as the second major finding revealed, is that the state utilities that made up the opposition to Proposal 3 were able to emphatically – if not genuinely – proclaim that they fully supported renewable energy development. The fact that they were already adhering to a state legislature-approved RES was evidence enough of their support, as one of the opposition's main spokespeople – DTE executive and CARE spokeswoman Nancy Moody – told MLive, a media consortium that covers numerous media outlets throughout the state. Speaking a couple weeks before the election, Moody said that hers and other utilities make money off of renewables and were happy to adhere to the "measured" standard passed by the state legislature but were very concerned about a mandate in the state constitution. "The legislative process is a lengthy one, but it should

[145] Edith Zhou, "Growth seen in alternative energy jobs," *Manistee News Advocate*, September 22, 2012, http://news.pioneergroup.com/manisteenews/.

be," Moody said. "This is a constitutional amendment. Once you have the amendment, it is tough to go back to change the constitution. It is very inflexible."[146]

This theme of feasibility was often coupled with the constitutional theme as the opposition made the argument that the utilities should not be bound to a constitutional mandate when the technological resources were not readily available, a position often contested by proponents. "Even though it might benefit our company, we look at the bigger picture," said Jeff Woolman, president of OnSite Energy, told the *Flint Journal*. "We don't need it in our constitution. We see companies are already doing what the proposal wants done," adding that Proposal 3 could hurt companies trying to meet the existing standard.[147]

The opposition was also able to capitalize on the presence of four other proposed changes to the state constitution on the November ballot to stoke concern about Proposal 3 with the electorate. Governor Rick Snyder, a Republican who opposed Proposal 3, often said it and the other proposed amendments were a bad direction for Michigan. In a statement on Proposal 3 to the *Michigan Chronicle* that echoed similar sentiments he had with the other proposals (the story itself was titled "Gov. Snyder encourages voters to reject all but Proposal 1 on Election Day"), Snyder said it was a "terrible idea" for the proposal to be included in the constitution, especially since it was unknown at the time what would happen with renewable energy legislation at the federal level.[148]

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[146] Dave Alexander, "Shared goals, different paths panelists disagree whether proposal 3 is way to clean energy," MLive, October 25, 2012, http://www.mlive.com/news/muskegon/index.ssf/2012/10/debate_over_proposal_3_not_abo.html.

[147] Shaun Byron, "Genesee County alternative energy businesses split on Proposal 3," *Flint Journal*, October 25, 2012, http://www.mlive.com/flint/.

[148] Patrick Keating, "Gov. Snyder encourages voters to reject all but Proposal 1 on Election Day," *Michigan Chronicle*, October 24, 2012, http://michronicleonline.com/2012/10/24/gov-snyder-encourages-voters-to-reject-all-but-proposal-1-on-election-day/.

Whether they were to trying to downplay significance of it or simply did not see it to be that big of an issue, the proponents were not prepared to proactively make their case that the only way for Michigan to achieve the renewable energy goals of Proposal 3 was by amending the state's constitution. While the opposition first discussed the constitutional ramifications of Proposal 3 shortly after it was certified to be on the ballot that fall (the *Lansing City Pulse* quoted Attorney General Bill Schuette as calling the proposal an "end run" around the legislature's right to design energy policy for the state),[149] the proponents did not make a direct argument on behalf of the constitutional merits of the proposal for more than a month, when Proposal 3 spokesman Mark Fisk characterized the state legislature as being the "Three Stooges willing to protect the status quo and utility company profits at all costs" and that a constitutional amendment was the only way to give the public itself a chance to decide Michigan's energy future.[150]

Even though the proponents discussed the constitutional ramifications of Proposal 3, their posture was defensive, reacting more to criticism than making their own proactive case for why a constitutional amendment was the only option. A few days before the election, a story on MLive reported that: "Michigan State Conference NAACP President Yvonne White said some people have questioned writing a renewable energy requirement into the state Constitution, but legislators have not been responsive to calls for cleaner energy. 'We chose to take on that task because of the health impact that has on

[149] Andy Balaskovitz, "New MSU research suggests renewable energy ballot initiative will be a two-fer: clean air and more jobs," *Lansing City Pulse*, August 10, 2012, http://www.lansingcitypulse.com/lansing/.

[150] Melissa Anders, "Say no to energy mandate, voters urged; Schuette, Cox and Mallett join forces to speak out against renewable energy proposal," *Bay City Times*, September 23, 2012, http://www.mlive.com/bay-city/.

communities of color,' she said. 'When you don't have people doing things you want them to do, the only answer is through the ballot box.'"[151]

Proponents would also often point out that the amendment would leave it to the state legislature to determine how best to implement Proposal 3 were it to become a reality, but they did little to assuage the fears being stoked by the opposition that the state's constitution – its most fundamental document – was being amended to include this policy. In the final days before the election, it was clear that the proponents understood the gravity of their situation, especially given the other constitutional proposals on the ballot. "If you include the broader 'no' campaign, it's more like four-to-one … It's a much more complicated ballot environment than I think we were expecting," said Navin Nayak, senior vice president for campaigns at the League of Conservation Voters.[152]

The resistance by voters to change the state's constitution was clearly held in their ballots as they rejected all five proposed constitutional amendments.[153]

Recommendations and Conclusion

While there can certainly be many reasons offered by both sides for the proposal's fate, it is clear that it faced significant challenges that proponents of environmental policy had yet to encounter in past efforts across the country. If other climate policy entrepreneurs want to pass aggressive renewable energy or similar climate-related

[151] Megan Hart, "Muskegon NAACP holds panel discussion in support of Proposal 3 for renewable energy," *MLive*, November 1, 2012, http://www.mlive.com/news/muskegon/index.ssf/2012/11/muskegon_naacp_holds_panel_dis.html.

[152] Chad Livengood, "Support for EM law is gaining momentum," *Detroit News*, November 1, 2012, http://www.detroitnews.com/.

[153] Paul Egan and John Gallagher, "Message from Michigan voters: Leave our constitution alone," *Detroit Free Press*, November 7, 2012, http://www.freep.com /.

policies like this through the voters at the state level, there are valuable lessons that can be derived from these findings to help inform those efforts.

First, if proponents are going to propose a constitutional amendment or ballot initiative as a means to enact policy, they need to clearly and proactively state why this is the best choice, a tall order under normal circumstances. Clearly there was evidence that the state legislature was ardently against expanding the RES, but little of the proponents' arguments were framed around that opposition. Rather than frame the debate as the people taking a step against a stalwart legislature, there is little evidence that proponents were prepared to answer why this had to be an amendment at all. If policy entrepreneurs are to take a proposal like this to the people, the reason why those citizens must bypass the state legislators they elected and pass such a policy – especially if it involves modifying the state's guiding document – must be central to their narrative.

Second, if they want to use an amendment to the state constitution to enact such a policy, the amendment itself needs to be more prescriptive. As several critics of the policy noted, the vague nature of the amendment – while intended to give the state broad authority over how to comply with it – made it difficult to defend against criticisms about how the state would comply with the amendment in specific situations like an economic downtown. For such a simple goal to prescribe to, how to reach that goal requires a lot more detail, more than could probably be included in the constitution that is arguably not meant to be a prescriptive policy document but rather the state's codification of its core principles.

Third, if they are going to go for such a proposal, they must be strategic about their timing. In 2012, Michigan voters were asked to put five amendments on the state's

constitution at a time when anti-government sentiment and opposition to liberal-cast causes like clean energy were still lingering from the 2010 election that brought the rise of the Tea Party and a new wave of highly partisan sentiment throughout the American politic. Additionally, the country as a whole and Michigan in particular were still recovering from the effects of the Great Recession, and while proponents saw this as an opportunity sell the proposal as bringing jobs to the state, opponents were able to stoke the wariness already felt by most state residents about how their fragile economy could upend as a result of this proposal. Given that the state legislature had passed a smaller RES just two years before that was not even halfway to its deadline of 2015 when Proposal 3 appeared on the ballot, proponents were hard pressed to make a case for why this larger proposal should supersede the first one so quickly. To make that argument would require a forceful statement about the failings of the legislature and the utilities to live up to its obligations under the 2010 standard.

Those failings must be coupled with the fourth major lesson: urgency. While much of the rhetoric warned about Michigan falling behind other industrial states in the potential economic gold mine of renewable energy development, the policy entrepreneurs must clearly explain how the state will miss out – either by using specific examples like monetary value or jobs on a specific project that may be lost – if it does not enact this standard. A possible strategy might be securing the commitment of a prominent leader or company in the field of renewable energy to establish a manufacturing base within the state should it pass such a standard. When the effect is tangible and not an abstract statement like "X number of jobs could be created with this proposal," voters may be more responsive.

Indeed, one body of research that examined concerns about climate change against positive- and negative-framed issues found that when that concern is high, the framing makes little difference, while at low level of concern the negative framing will have far greater effect than a positive-framed message. More specifically, the researchers concluded, "results indicate that promoting the potential consequences of inaction more strongly affect sustainable consumer intentions than the potential consequences of taking action," including on public policy.[154]

Since the defeat of Proposal 3, both Democrats and Republicans in the Michigan legislature have discussed a possible successor to its original 2010 RES. A report by the Union of Concerned Scientists concluded that the state could meet a third of its electricity needs with renewables by 2030 with nearly zero costs to consumers, a growth in the state's electric grid that would create jobs and boost the state's industry.[155] Ambitious and far off like Proposal 3, the analysis shows a radical change for Michigan's economic and energy future. Governor Snyder had said he is committed to a "no regrets" energy future by 2025,[156] but what that future will look like – for the time being – will be left up to the state legislature. Those seeking to enact more immediate change through the voters will need to heed the lessons of Proposal 3 and evaluate how they make their case to them.

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[154] Christopher L. Newman, Elizabeth Howlett, Scot Burton, John C. Kozup, and Andrea Heintz Tangari, "The influence of consumer concern about global climate change on framing effects for environmental sustainability messages," *International Journal of Advertising* 31, no. 3 (2012): 511-527.

[155] Union of Concerned Scientists Media Department, "Renewables Could Meet Nearly a Third of Michigan's Energy Needs," *Union of Concerned Scientists Press Release* (March 12, 2014), http://www.ucsusa.org/news/press_release/Michigan-Renewables-Report-0402.html.

[156] Office of the Governor, "Governor Snyder sets goals for "No Regrets" energy future by 2025," *State of Michigan Press Release*, (December 19, 2012), http://www.michigan.gov/snyder/0,4668,7-277-57577_57657-318423--,00.html.

Chapter 3 – California Clears the Air on Clean Cars: A Case Study of Federal-State Regulatory Coordination on Fuel Economy and Climate Emissions

Toward summer's end in 2011, automobile manufacturers, environmentalists, labor unions, health advocates, regulators, and policymakers from coast to coast were waiting, waiting for an announcement they knew was coming but the substance of which was unknown. Coming soon from President Obama's administration would be what was already being projected as the single-largest step his or any other administration had taken to reduce the country's contribution to global climate change: significantly higher fuel economy and greenhouse gas emission standards for new cars and light trucks. These vehicles, the very same the majority of Americans own and drive every day, account for the majority of the vehicles on U.S. roads and about 61 percent of the greenhouse gas emissions generated by the transportation sector – which accounts for more than a quarter of all U.S. greenhouse gas emissions – every day.[157]

The path to this announcement had been forged for nearly a decade, but aside from what the final standard would be, there was the question of whether California would go along with these standards. The state, which for decades has been a leader both in the nation and throughout the world for clean air innovation, had already taken one of the boldest steps forward toward combatting climate change with its own climate law. If

[157]U.S. Environmental Protection Agency, "Fast Facts: U.S. Transportation Sector Greenhouse Gas Emissions -- 1990-2011," last modified September 2013, http://www.epa.gov/otaq/climate/documents/420f13033a.pdf.

the state felt the federal goal was not ambitious enough, it could – thanks to existing federal law that allowed the state to set its own greenhouse gas emissions standards for vehicles – choose to disregard this federal goal and set a higher greenhouse gas standard for itself that automakers would have to reach in order to sell vehicles in the state. The prospect of a singular, national standard for fuel economy but two standards for greenhouse gas emissions – a national one and a California one – was distasteful to automakers and worrisome for the administration, which saw California's cooperation as integral to the standards' success.

On July 29, 2011, President Obama stood with the leaders of America's 13 largest automobile manufacturers that together account for 90 percent of the passenger vehicles sold in the United States to announce their cooperation with the new federal fuel economy goal that would reduce fleetwide average climate change emissions for new cars and light trucks by model year (MY) 2025 to 163 grams per mile – equivalent to 54.5 miles per gallon (mpg) if met with fuel economy improvements alone.[158]

"Using less oil also means our cars will produce fewer emissions," he told the assembled crowd. "So when your kids are biking around the neighborhood, they'll be breathing less pollution and fewer toxins. It means we're doing more to protect our air

[158] The mpg value announced encompasses two values, the straight greenhouse gas emissions standards produced by the U.S. EPA and the California Air Resources Board, and the fuel economy standards produced by the National Highway Traffic and Safety Administration, meaning that a vehicle could have lower fuel economy rating alone but have the greenhouse gas emissions of a higher mpg vehicle, leading to a higher mpg-equivalent rating. It also means that some vehicles in the overall fleet of vehicles sold in the United States will have a mpg-equivalent higher than the fleetwide average and some will be lower. For the purposes of this chapter, mpg values discussed with regards to the new standards will be mpg-equivalent values that encompass both these values.

and water. And it means we're reducing the carbon pollution that threatens our climate."[159]

He was also able to announce that California would participate in the standards, declaring that the state "has consistently been a leader on this issue."

California had significant leverage over the fate of the standards given that it was not necessarily bound to implement the same standard set by the federal government through its own channels. As one observer noted in 2012 after the new standards were finalized, "California and the states that follow it represent 40 percent of the new car market … That's why you've seen such support from the automakers for an integrated rule."[160] While the final rating was less than the highest possible rating that federal regulators had considered, the fact that the deal had the support of federal regulators, automobile manufacturers, labor unions, health advocates, environmental groups, and the state of California showed a unique moment of state and federal cooperation on combatting climate change. But the deal also presents an interesting question: why would California, which had the regulatory authority and demonstrated desire to combat climate change in excess of federal efforts, choose instead to go along with a less effective, national standard?

To examine this question requires a review of state regulations influencing federal policy, the evolution of vehicle emissions standards, the effectiveness of cooperation

[159] Barack Obama, "Remarks by the President on Fuel Efficiency Standards," (speech delivered at the Walter E. Washington Convention Center in Washington, D.C., July 29, 2011).

[160] Jim Motavalli, "California's quiet but Crucial Role in Shaping Fuel Economy Standards," *New York Times*, Sept. 4, 2012, http://wheels.blogs.nytimes.com/2012/09/04/californias-quiet-but-crucial-role-in-shaping-fuel-economy-standards/.

between federal, state, and private entities on regulation, and how California positioned itself during the deliberations over the new standards.

My hypothesis is that California had a greater interest in seeing a unified, national standard and preserving its existing regulatory authority but did leverage that authority to push federal regulators toward a high standard.

The Intersection of State and Federal Regulations

Long before anyone was starting to pay attention to climate change, the adverse impact vehicles' emissions were having on the country's health and wellbeing was quickly becoming apparent, and no more so than in California. Since the rapid economic development and urbanization that occurred following World War 2, personal vehicles have become a more ubiquitous part of people's lives. Prior to World War 2, 40 percent of the country didn't own a vehicle, utilizing public transportation or other means to travel. Today, 95 percent of American households own a vehicle, and 85 percent of Americans use their vehicle to get to work.[161] This growth in vehicle ownership and use contributed to the substantial rise in U.S. air pollution beginning in the 1940s. California, due to rapid industrial development and oil refinement, experienced heavy air pollution in places like Los Angeles[162] and became the first state in the country to establish air pollution control districts.[163] It would not be until 1955 that the federal government

[161] Robin Chase, "You Asked: Does Everyone in America Own a Car?" U.S. Department of State, Bureau of International Information Programs, accessed on March 1, 2015, http://photos.state.gov/libraries/cambodia/30486/Publications/everyone_in_america_own_a_car.pdf/.

[162] Karl B. Schnelle Jr. and Charles A. Brown, *Air Pollution Control Technology Handbook* (CRC Press LL, 2002), 13.

[163] Tianjia Tang, Bob O'Loughlin, Mike Roberts, and Edward Dancausse, "An Overview of Federal Air Quality Legislation," Federal Highway Administration, retrieved Feb. 15, 2015, http://www.fhwa.dot.gov/resourcecenter/teams/airquality/teamaq_law.pdf/.

would get involved with air quality when Congress passed the Air Pollution Control Act of 1955.[164] While limited in scope, largely focused on research and industrial sources of air pollution like coal-fired power plants, it was the first of many policy steps toward addressing the emissions generated by the country's rapid economic development. In 1962, the federal government started to focus on the health impacts of vehicle exhaust, and in 1965 Congress passed the first law establishing emission standards for new vehicles, the Motor Vehicle Air Pollution Control Act. By the mid-1960s, vehicles were responsible for over 60 percent of the air pollutants in U.S. skies.[165] It was not until 1970 with the enactment of the federal Clean Air Act that the first major air pollution control standards were established, including for motor vehicles.[166]

Despite the strength of the act, which included the establishment of the U.S. EPA to enforce it, California was still facing extreme and unique air pollution challenges. During the 1970s and 1980s, peak smog levels in the Los Angeles area were five times higher than California' modern air quality standards.[167] By 1980, California had 12 million vehicles being driven more than 400 million miles every day, with passenger cars and trucks producing seven times the nitrous oxide (NOx) pollution – a major contributor to smog and other air pollution – than all the power plants in the state combined.[168]

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[164] History of the Clean Air Act, U.S. Environmental Protection Agency, last updated Aug. 15, 2013, http://www.epa.gov/air/caa/amendments.html/.

[165] Martin V. Melosi, "The Automotive and the Environment in American History," Automobile in American Life and Society, last accessed Feb. 13, 2015, http://www.autolife.umd.umich.edu/Environment/E_Overview/E_Overview4.htm/.

[166] "The Plain English Guide to the Clean Air Act," U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, last modified April 2007, http://www.epa.gov/.

[167] Travis Madsen and Benjamin Davis, and Bernadette Del Chiaro, *Clean Cars in California: Four Decades of Progress in the Unfinished Battle to Clean Up Our Air*, Frontier Group, November 2010.

[168] Ibid.

Recognizing during the 1960s that it was already experiencing dangerous levels of emissions, California started to push "technology forcing" policies, starting with mandating that automakers install pollution-controlling equipment in vehicles sold in the state.[169] By the 1970s, this approach had expanded to push automakers to develop new technologies to reduce emissions by setting stringent emission standards. Catalytic converters, oxygen sensors, and emissions control systems – technological additions that automakers often claimed would bankrupt them – became standard in new vehicles, and soon after California would set a standard for emissions, the federal government would follow with a comparable reduction in emissions.

While the federal government has the ability to regulate a national set of minimum standards that states must meet or exceed, it cannot force states to adopt certain policies or regulations. This "commandeering," as one researcher put it, is prohibited by the limits of the Commerce Clause of the Constitution, as well as protected by the doctrine of dual sovereignty.[170] These points were codified in the Supreme Court's decision in *New York v. United States*, a case over a federal law forcing states to manage the disposal of radioactive waste within their borders, when it ruled "the Constitution enables the Federal Government to preempt state regulation contrary to federal interests, and it permits the Federal Government to hold out incentives to the States as a means of encouraging them to adopt suggested regulatory schemes. It does not, however, authorize Congress simply to direct the States."[171] But the court did clarify that this did not prohibit

[169] Paul Miller and Matt Solomon, "A Brief History of Technology-Forcing Motor Vehicle Regulations," NESCAUM, last modified June 2009, http://www.nescaum.org/.

[170] Jonathan H. Adler, "Cooperation, Commandeering or Crowding Out? Federal Intervention and State Choices in Health Care Policy," *Kansas Journal of Law & Pubic Policy* 20, no. 2 (2011).

[171] *New York v. United States,* 505 U.S. 144 (1992).

the federal government from working to influence state policy. As it noted later in the opinion, "Where Congress has the authority to regulate private activity under the Commerce Clause, we have recognized Congress' power to offer States the choice of regulating that activity according to federal standards or having state law pre-empted by federal regulation . . .This arrangement . . . has been termed "a program of cooperative federalism."

This cooperative federalism manifested in California through two exemptions in the Clean Air Act[172] that would pave the way for the state to be a leader in clean vehicle technology. [173] The first, Section 209, permitted the state to set emissions standards for vehicles at higher levels than the federal government. Section 177 of the Act permitted other states' to adopt California's standards.[174] As of 2010, thirteen states and the District of Columbia would become so-called "177 States," a reference to the act's section that gave California and these states this authority.[175]

The idea that states pursue their own laws or regulations to put pressure on the federal government to take action is not a new concept, and certainly has already had broad applicability to environmental laws. Researchers believe this form of environmental federalism was instrumental in pushing the federal government to pass a flurry of environmental laws during the 1960s and 1970s, including the Clean Air Act and Clean Water Act. Prior to this time period, federal environmental regulation was

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[172] California Waivers and Authorizations, U.S. Environmental Protection Agency, last updated Nov. 24, 2014, http://www.epa.gov/otaq/cafr.htm/.

[173] Clean Air Act -- Table of Contents, U.S. Environmental Protection Agency, last updated April 19, 2013, http://www.thecre.com/fedlaw/legal14air/contents.htm/.

[174] Clean Air Act & State Authority, Clean Cars Campaign, last modified December 2013, http://www.cleancarscampaign.org/web-content/cleanairact/cleanairact.html/.

[175] National Clean Vehicle Program: Creating a Combined Standard, Union of Concerned Scientists, last modified April 2010, http://www.ucsusa.org/sites/default/files/legacy/assets/documents/clean_vehicles/How-the-Federal-and-State-Clean-Car-Standards-Work-Together.pdf/.

minimal, but states passing their own regulations can force the regulated industry to push for a single, national standard. But while some industries like power generators and manufacturers can play states against each other over where they will locate (or relocate) in a bid to combat environmental regulations, the automotive industry cannot use a similar tactic. It cannot afford to refuse selling cars to one state or another because that state has a higher standard for vehicle emissions, and while the industry fought emissions controls at first, by the mid-1960s as California was continuing to ramp up its emissions controls for vehicles, it was the auto industry that asking for a single, federal standard.[176]

However, the dueling federal and California standards for fuel economy and emissions from vehicles represented what one researchers believes to be an innovative and promising approach to developing climate change policy known as "iterative federalism." Coined by Ann Carlson, a professor at the University of California - Los Angeles's School of Law, the term refers to the model that emerged out of California's ability to regulate air pollution in excess of federal standards under the Clean Air Act. This scheme is reflective of this unique brand of federalism "where federal law consciously designates a particular and distinct state or group of states to regulate and relies on that regulatory arrangement to enhance compliance with federal standards."[177] This authority, and the policy steps that California took, were often followed by similar

[176] E. Donald Elliott, Bruce A. Ackerman, and John C. Millian, "Toward a theory of statutory evolution: The federalization of environmental law," *Journal of Law, Economics, & Organization* (1985): 313-340.

[177] Anne E. Carlson, "Iterative Federalism and Climate Change," *Northwestern University Law Review*, Vol. 103 (2009).

actions at the federal level as observed with another of California's climate change laws, a low-carbon fuel standard for refiners.[178]

Despite a growing public consciousness about the impact of carbon dioxide and other emissions that drive climate change through the 1990s, including the signing of the Kyoto Protocol in 1997, it would not be until 2002 with the California's passage of Assembly Bill 1493, otherwise known as the "Pavley" regulations, that a regulatory body – state or federal – would call for standards to reduce greenhouse gas emissions in new passenger vehicles.[179] Citing the state's authority under the Clean Air Act to promulgate these standards in excess of federal standards, the law called for CARB to establish regulations by 2005 for reducing greenhouse gas emissions from new vehicles built between 2009 and 2016. Detailing the adverse impacts climate change has already had on the state, the bill states that "California has a long history of being the first in the nation to take action to protect public health and the environment, and the federal government has permitted the state to take those actions." It also noted that "technological solutions to reduce greenhouse gas emissions will stimulate the California economy and provide enhanced job opportunities. This will continue the California automobile worker tradition of building cars that use cutting edge technology."

However, after CARB produced the new standards and the state applied to the EPA in December 2005 for a waiver to institute these standards, the agency stalled, telling the state in early 2007 that because of a pending case before the U.S. Supreme

[178] Michael DiGrande, "Arrested Development: A Call for Feasible Market-Control Measures to Incentivize Alternative Fuel Innovation and Combat Global Climate Change," *Golden Gate University Law Review* 44 (2014): 337.

[179] Clean Car Standards - Pavley, Assembly Bill 1493. California Air Resources Board, last reviewed May 6, 2013, http://www.arb.ca.gov/cc/ccms/ccms.htm/.

Court, *Massachusetts v. EPA*, it could not make a decision until that case was resolved.[180] Despite the court siding with California and the other states in its decision, the EPA denied the waiver in March 2008 and it would not be until June 2009, after President Barack Obama took office and ordered the EPA to reconsider the waiver request, that it was ultimately approved.[181] This would set the stage for the first-ever greenhouse gas emission standards for vehicles, but it remained be seen whether California would once again lead on emissions control.

Fuel Economy Standards and the Rise of the National Program

President Obama, who had campaigned on combatting climate change, was set early on to make clean vehicle advancements a central part of his environmental agenda.[182] Soon after taking office, his administration sought to chart a new path for establishing new greenhouse gas emission and fuel efficiency standards for new vehicles.

Since transportation became a growing part of the larger discussion on climate change, more research has been focused on how increasing fuel economy standards would reduce oil use and vehicle emissions,[183] but the research has been mixed in its assessment. Transportation accounts for 12 percent of all greenhouse gas emissions worldwide,[184] and while few would dispute that higher fuel economy standards would

[180] William L. Wehrum, Acting Assistant Administrator, U.S. Environmental Protection Agency, letter to Catherine Witherspoon, Executive Officer, California Air Resources Board, Feb. 21, 2007.

[181] California Greenhouse Gas Waiver Request, U.S. Environmental Protection Agency, accessed on Dec. 31, 2014, http://www.epa.gov/otaq/climate/ca-waiver.htm/.

[182] Barack Obama, "Renewing American Leadership," *Foreign Affairs*, July/August 2007, http://www.foreignaffairs.com/articles/62636/barack-obama/renewing-american-leadership/.

[183] Sarica Kemal and Wallace E. Tyner, "Alternative policy impacts on US GHG emissions and energy security: A hybrid modeling approach," *Energy Economics* 40 (2013): 40-50.

[184] "Global Anthropogenic GHG Emissions by Sector," Center for Climate and Energy Solutions, accessed on Feb. 5, 2015, http://www.c2es.org/facts-figures/international-emissions/sector/.

result in lower vehicle emissions simply because it means vehicles are burning less fuel, there are varying views about whether fuel economy standards are the best tool for reducing transportation emissions and whether their implementation may be more costly than other carbon-reduction strategies.[185] One set of researchers said that in the United States a fuel tax may be more effective than fuel economy standards. This is in part because the United States has a slow turnover of new vehicles – meaning higher fuel efficiency vehicles are slow to work onto U.S. roads – and because a fuel tax incentivizes all drivers to cut down their fuel use.[186] They did note, however, that fuel economy standards may make more political and regulatory sense in the United States because of the negative reaction to higher taxes. They also said that fuel economy standards would have the added benefit of creating a more predictable, stable regulatory environment to encourage automakers to develop new clean vehicle technology "by removing some of the downside risks to innovators in a world of uncertain fuel prices."

Other researchers concluded that not only was an increase in fuel economy standards more effective than fuel taxes for raising vehicle fuel efficiency and reducing greenhouse gas emissions, but that –as vehicles become more efficient they use less fuel and volatility in the gasoline market is typically too short to drive automakers to make long-term investments in improving vehicle technology – regulation will become increasingly important to drive improvements in fuel efficiency.[187] Another researcher

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[185] Valerie J. Karplus, Sergey Paltsev, Mustafa Babiker, and John M. Reilly, "Should a vehicle fuel economy standard be combined with an economy-wide greenhouse gas emissions constraint? Implications for energy and climate policy in the United States," *Energy Economics* 36 (2013): 322-333.

[186] Soren T. Anderson, Ian WH Parry, James M. Sallee, and Carolyn Fischer, "Automobile fuel economy standards: Impacts, efficiency, and alternatives," *Review of Environmental Economics and Policy* 5, no. 1 (2011): 89-108.

[187] Clerides Sofronis and Theodoros Zachariadis, "The effect of standards and fuel prices on automobile fuel economy: an international analysis," *Energy Economics* 30, no. 5 (2008): 2657-2672.

noted that while there has been much focus on developing next-generation vehicle technologies like electric and hydrogen vehicles, regular internal combustion engine vehicles will remain the dominant vehicles on roads for the foreseeable future, making regulating their fuel efficiency the more effective path for long-term reduction in emissions.[188]

Noting that automakers have been lobbying for a national, unified vehicle emissions scheme since the 1960s, one researcher argued that a unified, "harmonized" standard not just nationally but worldwide would not only help automakers reduce their vehicles' contribution to climate change, but it would also prevent against the "race to the bottom" mentality of market actors who, seeing multiple standards in multiple markets, will do the bare minimum to comply with the lowest regulation available and thus lower their overall impact.[189]

But up until the last 20 years, reducing emissions for the sake of combatting climate change was not a consideration for increasing fuel efficiency standards. While separate federal and state-level standards had called for reducing the amount of emissions from a vehicle for several years, it was not until 1975 that Congress would first establish Corporate Average Fuel Economy, or CAFE, standards. These standards, largely established in the wake of the 1973 oil embargo that caused U.S. gasoline prices to skyrocket, set certain fuel economy standards for automakers based on the weight of their vehicles. These standards were intended to double average fuel economy standards to about 27.5 mpg by MY1985, but additional gains were long stalled due in part to

[188] Christian Berggren and Thomas Magnusson, "Reducing automotive emissions—The potentials of combustion engine technologies and the power of policy," *Energy Policy* 41 (2012): 636-643.

[189] John M. Amandolare, "Clean Air the Natural Way: A Case for Harmonizing Global Auto Emissions Standards," *Environmental Claims Journal* 25, no. 1 (2013): 50-72.

members of Congress who are allied with the auto industry, which claimed the standards would hurt U.S. competition and raise prices. Standards remained stagnant until 2007 with the passage of the Energy Independence and Security Act of 2007.[190] This sweeping energy legislation called for the raising of fuel economy standards of new passenger vehicles sold in the United States – including car, light trucks, and sports utility vehicles – to have a combined average of about 35 mpg by 2020, with additional benchmarks set for later years.

Backed by the authority under the Supreme Court's *Massachusetts v. EPA* decision, the Obama administration sought not only to go beyond the standards set forth by the 2007 law but also to use the Clean Air Act to establish the first-ever federal greenhouse gas emission standards for new vehicles. This would require not only coordination between the Department of Transportation's National Highway Traffic and Safety Administration (NHTSA) – which was responsible for setting fuel economy standards – and the EPA – which had the authority to set greenhouse gas emission standards – but cooperation with the state of California and the states that chose to adopt its vehicle emission standards. California had finally gotten its waiver from the EPA to set its own greenhouse gas emission standards for new vehicles under its Pavley regulations, but there was serious concern voiced by automakers and some members of Congress that continuing to have two standards for vehicles in this country – a federal one and one for the state of California and the states that follow its standards – would be

[190] Fuel Economy Basics, Union of Concerned Scientists, last accessed on Jan. 15, 2015, http://www.ucsusa.org/clean_vehicles/smart-transportation-solutions/better-fuel-efficiency/fuel-economy-basics.html/.

onerous for automakers. Automakers challenged California's authority to implement its own standards in 2004, but the case was dismissed in 2007.[191]

Still, the discontinuity remained. The Obama Administration's solution was the establishment of the National Program, a coordinated effort between NTSHA, the EPA, and California to work collaboratively to establish a single standard for greenhouse gas emissions and fuel economy standards for new vehicles.[192] "Car companies might then face three different sets of overlapping requirements, one administered by the Department of Transportation, one administered by the EPA, and still a third administered by California and 13 other states," President Obama said as he announced the National Program, referring to the two sets of greenhouse gas emissions standards managed at the federal level by EPA and the California level by CARB but the single, national fuel economy standards managed by NHTSA. "This proposed national policy, under the leadership of two agencies – and bringing together 14 states, 10 companies, as well as auto workers and environmental groups – changes all that."[193]

Noting that mobile sources accounted for 31 percent of greenhouse gas emissions in the United States in 2007 and was the fastest-growing source of said emissions in the United States since 1990, the EPA and NHTSA said this phase of the standards – which would cover MY2012-2016 and call for a fleetwide average of 34.1 mpg – would reduce

[191] Vehicle Greenhouse Gas Emissions Standards, Center for Climate and Energy Solutions, updated May 20, 2013, http://www.c2es.org/sites/default/modules/usmap/pdf.php?file=5905/.

[192] EPA and NHTSA Propose Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks, U.S. Environmental Protection Agency, Office of Transportation and Air Quality, September 2009, http://www.epa.gov/otaq/climate/regulations/420f09047a.pdf/.

[193] Barack Obama, "Remarks by the President on National Fuel Efficiency Standards," (speech delivered at the White House, Washington, D.C., May 19, 2009).

U.S. greenhouse gas emissions by about 21 percent by 2030 below the level that would have been generated without the program.[194]

This plan, proposed in 2009 and finalized in 2010, was quietly orchestrated and supported by the federal government, the state of California, automakers, environmental groups, and the United Auto Workers.[195] As President Obama noted at the announcement of the standard, because the federal government and the state of California were working together on these standards, "we will avoid an inefficient and ineffective system of regulations that separately govern the fuel economy of autos and the carbon emissions they produce."

But this was only the first of what would be two phases for the National Program. While the first phase largely lined up the new, unified standards[196] with the existing fuel efficiency goals established by the 2007 federal law (albeit on a shorter timetable) and the greenhouse gas emission standards established by California's Pavley regulations,[197] the second phase would shoot for much higher goals, and the question became whether California – if the federal proposal was not aggressive enough – would once again go it alone.

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[194] EPA and NHTSA Finalize Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks, U.S. Environmental Protection Agency, Office of Transportation and Air Quality, April 2010, http://www.epa.gov/otaq/climate/regulations/420f10014.pdf/.

[195] Colin Sullivan, "Vow of silence key to White House-Calif. fuel economy talks," *Greenwire/New York Times*, May 20, 2009, http://www.nytimes.com/.

[196] National Clean Vehicle Program: Creating a Combined Standard, Union of Concerned Scientists, last modified April 2010, http://www.ucsusa.org/sites/default/files/legacy/assets/documents/clean_vehicles/How-the-Federal-and-State-Clean-Car-Standards-Work-Together.pdf/.

[197] Clean Car Standards - Pavley, Assembly Bill 1493, California Air Resources Board, last reviewed May 6, 2013, http://www.arb.ca.gov/cc/ccms/ccms.htm/.

California Stays the Regulatory Elephant in the Room

The events leading up to the new round of standards showed that while California was deeply interested in a higher standard, it was more interested in a strong, national standard and preserving its own regulatory authority, and thus did not stake itself publically on what kind of standard it wanted.

In May 2010, just a few months after the announcement of the new standards, President Obama instructed NHTSA and EPA to work with CARB to develop a new set of standards that would cover MY2017-2025.[198] The move was expected, with some advocates already proposing new levels the administration could achieve with a new standard.[199] While the instruction did not include a specific number in mind, it emerged later that fall that the agencies were considering more than 60 mpg-equivalent by 2025, more than double the newly finalized standards.[200]

The new goals came at a difficult time for the administration. While the first phase of standards were proposed within the first year of the administration at a time when the president's popularity was high and political opposition was minimal, by the time the administration had begun discussing the next phase of standards, there had been a lot of changes to the political climate. The highly contentious deliberation of what would become the Affordable Care Act significantly weakened public support for the president's initiatives, and the slow defeat of the federal climate bill that passed the House but died in the Senate slowed national momentum for taking any sort of climate

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[198] DOT and EPA Announce Next Steps toward Tighter Tailpipe and Fuel Economy Standards for Passenger Cars and Trucks, National Highway Traffic and Safety Administration, Oct. 10, 2010, http://www.nhtsa.gov/.

[199] "Consumer Federation of America calls for 60 mpg CAFE standard by 2025," *AutoBlog.com*, Sept. 3, 2010, http://www.autoblog.com/.

[200] "Confirmed: U.S. considering 62 mpg CAFE target by 2025," *AutoBlog.com*, Oct. 1, 2010, http://www.autoblog.com/.

change action.[201] To make the next round a success, the administration would need to have the same kind of unified cooperation across all parties that made the first phase such a success.

That includes the state of California, which was initially supportive of the federal climate change bill in the House but expressed serious concerns it would undermine the state's own efforts to combat climate change.[202] As the House-passed bill died in the Senate, California was in the midst of its rulemaking process for implementing its own climate law, which requires California to get its greenhouse gas levels down to 1990 levels by 2020, about a 15 percent reduction in emissions.[203] Reductions in vehicle emissions were crucial to that goal, and while the work to reduce these emissions was already underway and coordinated in part with the federal government on the first round of standards, if the second round was not as aggressive as the state wanted, it could opt to do its own, higher standard.

Coordinating these efforts, including their timelines, was crucial to making this endeavor a success. While California has the authority to regulate greenhouse gases from vehicles in excess of federal standards, it does not have any authority to set fuel economy standards, which can only be set at the federal level. This meant that the federal government wanted to have a single, national standard for vehicles, California would have to align its rulemaking process for emissions with the timeline of the federal emissions and fuel economy standards.

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[201] Ryan Lizza, "As the World Burns," *The New Yorker*, October 11, 2010.

[202] "CA Officials Worry Climate Bill May Nullify Regulations," KQED Radio, April 21, 2010, http://www.kqed.org/.

[203] "Assembly Bill 32 Overview," California Air Resources Board, last reviewed Aug. 5, 2014, http://www.arb.ca.gov/cc/ab32/ab32.htm/.

California had already announced its plan to propose its 2017-2025 emission standards by March 2011, but EPA and NHTSA's timeline for generating the emissions and fuel economy standards wouldn't come until the end of that September, meaning California could potentially come out with a higher emissions standard that could force federal regulators to set their own rules at that level – whether the wanted to or not – in order to have a national standard. This gave California an edge, but it also created an opening for attack.

Even before the announcement that California and the federal government would work together, California was already in a fight with automakers over their ability to regulate emissions. On January 11, the automotive industry's main trade group – the Alliance of Auto Manufacturers – sent a letter to members of Congress accusing California of rushing their process to produce an emissions rule, which in the group's opinion "is not in the spirit of a collaborative effort to develop a single national program for fuel economy/greenhouse gas (greenhouse gas) standards."[204]

In a joint announcement later that month, the EPA, DOT, and CARB announced they would align their timelines for rulemaking to work together to propose a new round of standard for MY2017-2025. While California lauded the previous collaboration leading to higher, overall emissions standards, this commitment only extended to reviewing the same set of data and coming out with their proposals at about the same time, not to agreeing to set the same standard.[205]

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[204] Alliance of Automotive Manufacturers, letter to Representative Fred Upton (R-Mich.), January 11, 2011, http://sierraclub.typepad.com/files/auto-alliance-letter-to-rep-upton.pdf/.

[205] EPA, DOT and California Align Timeframe for Proposing Standards for Next Generation of Clean Cars, California Air Resources Board, Jan. 24, 2011, http://www.arb.ca.gov/newsrel/newsrelease.php?id=181/.

California took issue with the letter, with CARB Chairman Mary D. Nichols writing the CEOs of seven major auto manufacturers directly to take them to task for their trade group's accusations. "For the Alliance to suggest we are no longer committed to a cooperative effort is disingenuous at best, and incorrect," she wrote, adding that the automakers should "distance" themselves from the group.[206]

Still, California's unique authority got the attention of congressional Republicans, including House Energy and Commerce Committee Chairman Fred Upton. That March, Upton – a Republican from Michigan and a longtime advocate of the auto industry – introduced legislation to block the Obama administration's ability to regulate greenhouse gases, including its authority to give California the waivers it needs under the Clean Air Act to implement higher vehicle emissions standards, claiming the overall bill would thwart this "backdoor attempt by unelected bureaucrats" to try to create a regulatory version of the climate bill that died in the Senate the previous year.[207] There was companion legislation in the Senate, and while the bills had little chance of becoming law with Democrats in control in the Senate and the White House, Californians were fiercely critical of the bill and defensive of their authority to regulate vehicle emissions, with CARB spokesman Stanley Young calling it a "shocking attack on states' rights and on public health." [208]

The debate over the state's ability to tackle climate change came at an interesting time for California. The state had just finished deciding on Proposition 23, a hotly contested but ultimately unsuccessful ballot initiative the previous year to suspend the

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[206] "Calif., auto association in emissions tiff," UPI, Feb. 7, 2011.

[207] Carolyn Lochhead, "State's emission rules face GOP challenge; Tougher greenhouse gas limits opposed," *San Francisco Chronicle,* pg. A1, March 14, 2011.

[208] Ibid.

state's climate law.[209] It had also won an important legal victory. That April, the U.S. Court of Appeals for the District of Columbia rejected a legal challenge to California's authority to set its own emissions standard for vehicles sold in the state. The suit, brought by the U.S. Chamber of Commerce and the National Automotive Dealers Association, contended that dueling federal and California standards would hurt businesses, but the court said the groups lacked standing and could not demonstrate how the group's respective members would be harmed by the new standards.[210] The court noted that "Even if EPA's decision to grant California a waiver for its emissions standards once posed an imminent threat of injury to the petitioners, which is far from clear, the agency's subsequent adoption of federal standards has eliminated any independent threat that may have existed."[211] In effect, both these developments only further solidified for California that tackling climate change in whatever matter it saw fit was an affirmed state right.

Support for higher fuel economy standards, which would help achieve these emission levels, was growing in 2011 as consumers faced rising gas prices. A report by the Consumer Federation of America found that the average American household would likely pay a record $2,832 in fuel costs that year, more than most Americans would spend on car payments during the same year. The report showed nearly two-thirds of Americans favored a 60-mpg-or-greater standard, with support even higher amongst lower-income families.[212]

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[209] Margot Roosevelt, "Proposition 23 defeated," *Los Angeles Times*, Nov. 3, 2010, http://www.latimesblogs.latimes.com/.

[210] Jason Dearen, "Court rejects challenge to Calif.'s clear car regs," Associated Press, April 29, 2011.

[211] Ibed.

[212] Mary Ann Milbourn, "Average U.S. gasoline tab: $2,832," *The Orange County Register,"* pg. D, March 18, 2011.

This report would be one of many from the myriad of environmental, consumer, national security, and health groups making the case for the administration to set the new standard at the highest technically feasible level, about 60 mpg. Since the analysis and determination of how high to set the standards at the federal and California level were occurring behind the bureaucratic curtain, advocates on both sides were trying to make their respective cases to the public, which included the very same individuals that would decide the standards.

Several of the advocacy groups pushing for the higher standard – including the Sierra Club, Environment America, and the Union of Concerned Scientists – launched Go60MPG, a D.C. public advocacy campaign to drum up public support for the highest possible standard that included radio and print ads, rapid analysis, and reporter outreach.

The outreach was not just focused on the federal level, but also on California. A report by the American Lung Association found that if California were to set the highest possible standard, the air pollution reductions would prevent hundreds of premature deaths and billions of dollars in health care costs and damages,[213] while another report by Next 10 – a nonprofit research organization – found that 326,000 new jobs would come to the state if it went with the highest possible standard.[214]

Opponents were also pulling out their analytical chops against the standard. The Center for Automotive Research, a research group based in Michigan, issued a report claiming that the highest standard would add $9,000 to the cost of a new vehicle,[215] but

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[213] Kelly Zito, "Log association advocates tighter tailpipe controls," *The San Francisco Chronicle,* pg. C3, May 11, 2011.

[214] "Report: Better fuel efficiency, emissions could lead to new jobs," *Sacramento Business Journal,* May 25, 2011.

[215] "The U.S. Automotive Market and Industry in 2015," Center for Automotive Research, June 2011, http://www.cargroup.org/assets/files/ami.pdf/.

proponents criticized the report for relying on faulty methodology[216] (NTSHA and EPA's own technical assessment put the level much lower and said fuel savings would exceed these costs over the lifetime of the vehicle[217]) and painted the group as beholden to the auto industry.[218] Opponents got some traction for their efforts, with one member of Congress successfully getting an amendment attached to the Interior and Environment Appropriations bill that would prohibit EPA from spending its funds to either produce fuel economy standards or allow California to do so.[219]

While the amendment would not go anywhere in the end, the barrage of reports, ads, and legislative efforts came at a crucial time for this effort. According to a story in the *Los Angeles Times* written several months after the announcement of the new standards, round-the-clock negotiations started around mid-June to determine what would be the final standard.[220] Automakers asserted it was not technologically feasible to reach anything higher than 55 mpg by 2025, and called for a slower pace of increases for gas-guzzling vehicles like SUVs and trucks, as well as a review halfway between 2017 and 2025 to evaluate progress and see whether automakers were on track to reach the 2025 goal or abandon it all together. California and environmentalists, worried this would allow automakers to drag their heels until this midterm review, balked.[221] Less than two

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[216] John Voelcker, "Should Detroit Dial Down The Doom & Gloom Over High-Mileage Rules?" *GreenCarReports.com*, June 15, 2011, http://www.greencarreports.com/news/1061612_should-detroit-dial-down-the-doom-gloom-over-high-mileage-rules/.

[217] Jill Fitzsimmons, "Conservative Media Myths about Fuel Economy Standards," Media Matters for America, July 29, 2011, http://mediamatters.org/research/2011/07/29/conservative-media-myths-about-fuel-economy-sta/183554/.

[218] Simon Mui, "Cost Estimates by Agencies Are Reasonable and Support the Strongest Possible Fuel Economy and Pollution Standards," NRDC Switchboard, June 28, 2011, http://switchboard.nrdc.org/blogs/smui/cost_estimates_by_agencies_are.html/.

[219] Peter Roff, "Obama's Fuel Economy Standards Threaten the Economy," *U.S. News & World Report,* July 26, 2011.

[220] Neela Banerjee, "The road to new fuel economy standards was not smooth," *Los Angeles Times,* November 18, 2011.

[221] Ibid.

weeks before the standards would be announced, the Alliance for Automotive Manufacturers was set to start running a two-week radio ad campaign in California and several other states but cancelled the ads just before they were set to run only to start running them a day later.[222] The ads claimed that "families would be hit with higher car prices," and "small businesses dependent on vans, SUVs or pickups would face limited vehicle choices" because of the new standards, suggesting that the parties were still at odds in the negotiations.

Despite these efforts, the Obama administration, California, automakers, and the other parties involved reached an agreement, and a few days later at an event in Washington, D.C., flanked by executives from America's leading auto companies, President Obama announced the new standard of 54.5 mpg-equivalent by 2025, near the top of the feasibility range.

While proponents celebrated the new standards, the deal did give some concessions to automakers that would both keep the greenhouse gas reductions while giving more credit to the industry for technologies that would cut down on their total power use, specifically vehicles' air conditioning systems. They also agreed to a midterm review in 2021 that would force heavy fuel vehicles like trucks to make large gains in fuel economy, but only after the review.

Speaking to the myriad of different parties that were involved in the development of these rules, the president said "You all are demonstrating what can happen when people put aside differences. These folks are competitors. You got labor and business.

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[222] "Automaker Alliance Resumes Fear-Based Fuel Economy Ads," GreenCarReports.com/ KCAL-9NewsRadio, July 28, 2011, http://losangeles.cbslocal.com/2011/07/28/ automaker-alliance-resumes-fear-based-fuel-economy-ads/.

But they decided, 'We are going to work together to achieve something important and lasting for the country,'"[223] to which California Governor Jerry Brown said, upon announcement of the standard: "President Obama's bold action today marks a major advance towards a more sustainable environment and less oil-dependent economy." Noting that in his former position as California's attorney general he sued the Bush administration could the state could enact the standards for while the federal standards are based, he said that "California led the way, and all Californians can be proud that President Obama adopted our state's forward-thinking policy as a model for the nation."[224]

Recommendations and Conclusion

There are a few lessons about the deliberations over the new standards and California's role in them that other states could learn from if they choose to pursue their own collaboration with the federal government on climate-related policies.

The first is that nearly all parties, regardless of how they felt, were at least willing to be a part of the conversation. Aside from the National Automotive Dealers Association and its allies in Congress that wanted nothing more than to block EPA and California from producing any new standard, each stakeholder– while holding to their predictable position – was engaged in the conversation and contributing to it in one way or another. While the narrow, absolutist approach may invigorate diehards, it also alienates them from the conversation with other stakeholders that have very different opinions but want

[223] Neela Banerjee, "Obama hails deal on increasing auto fuel-economy standards," *Los Angeles Times,* July 29, 2011.

[224] "Governor Brown Applauds White House for Following California's Lead on Clean Car Standard," California's Office of the Governor, July 29, 2011, http://gov.ca.gov/news.php?id=17146/.

to move forward collectively. This did not happen overnight. It was the result of years of discussions, analysis, and relationship building to bring parties that just a few years before would not have sat down at a negotiating table with each other, much less worked together on an agreement.

The second key lesson is also related to that willingness to work together also comes with it a second key lesson: the parties that would ultimately decide these standards – EPA, CARB, and NHTSA – stayed open to all options, and even if a specific party has a preferred option, they did not voice it publically. The federal government, rather than laying out one option, gave a range of possible targets for 2025, providing breathing room for debate amongst the different parties. There were no specific statements discovered throughout this research made by California officials that explicitly declared that the state had a desire to use its authority to its fullest extent regardless of the process. While that may have provided some leverage at the negotiating table, it would have also painted the state into a corner, forcing them to hold to a specific level and risk appearing as a holdout in a collaborative process or conceding and looking like it acquiesced to automakers. Rather than holding to specific levels and digging in, parties on both sides provided ranges, creating the negotiating space needed for both sides to appear flexible and come to an agreement together.

That flexibility is the third, and perhaps most important reason for this success, because it involves weighing the cold, hard facts of analysis with other, sometimes less intrinsic factors. While the EPA and CARB's analyses indicated that it was possible to get as high as 60 mpg or greater by 2025, California and the federal government recognized that in order to have a single, standardized national standard, they would need

to have the automakers as partners. Were they to box them out of the negotiations or simply set the standards as high as they wanted even after consulting them, it would likely only likely lead them to more litigation, debate, and stymied progress in getting automakers to evolve their vehicles. By giving concessions like the midterm review and a less-than-ideal proposed standard, it made the very parties that would have to bear the brunt of this new standard a stakeholder in the process, rather than subject to it.

Ultimately, California's interest very likely could have been beyond its borders. Had California decided to go ahead with its own standards and bring with them the other states that choose to go with the California standard over the federal standard, there could have been greater reductions in greenhouse gases nationwide, but the state and the country needed to have automakers as partners in this process, not enemies. The concession to work together on the standards through 2025 sets the benchmark for a partnership that will lead to meaningful steps towards tackling climate change, which has been a longstanding goal of California. If states are going to rely on a regulatory approach for pushing climate-related policies, taking the additional time to make the different parties partners in the regulatory process rather than recipients will make the process more productive and ultimately lead to more effective action.

Speaking a year later when the rulemaking process finished at the federal level, CARB spokesman Stanley Young said California was preparing to finalize its own standards. While the federal standard was already complete, "the Air Resources Board staff prepared a separate resolution for consideration by the full board that deems the

federal program to be equivalent to that of California … We retain our own program, but this process effectively allows a single national program to go forth."[225]

[225] Jim Motavalli, "California's quiet but Crucial Role in Shaping Fuel Economy Standards," *New York Times*, Sept. 4, 2012, http://wheels.blogs.nytimes.com/2012/09/04/californias-quiet-but-crucial-role-in-shaping-fuel-economy-standards/.

Conclusion

A global threat like climate change needs a global solution. The United Nations provides the venue to craft that solution, but the participation in that solution must be at the national level. To continue failing to enact a nationwide climate policy is to ignore this global threat. Local, state and regional governments are doing what they can to fill the void left by this lack of policy, but until there is either a national policy or a policy that coordinates all these state and local efforts so that they are most effective, the impact of these subnational efforts may be minimal at best.

Indeed, several studies have found that the subnational, federalist structure of the United States, compared to other nations like Canada, makes it less able for a state to enact comprehensive policies because those subnational governments may not have the political or analytical capacity to craft effective policies or coordinate them with other entities.[226] They also lack the authority to sign on to trans-national climate agreements.[227] But the fact that the American political structure is markedly different than other countries doesn't mean that its subnational governments cannot enact climate policies. Research has found that support for local action on climate change appears to be transnational,[228] but other studies have noted that while local governments can take action, regardless of nationality, their policy options are limited.[229]

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[226] Jonathan Craft and Michael Howlett, "Policy Capacity and the Ability to Adapt to Climate Change: Canadian and U. S. Case Studies," *Review of Policy Research* 30, no. 1(2013):1-18.

[227] Michele Betsill, "Regional Governance of Global Climate Change: The North American Commission for Environmental Cooperation," *Global Environmental Politics* 7, no. 2(2007): 11-27.

[228] Erick, Lachapelle, Christopher P. Borick, and Barry Rabe, "Public Attitudes Toward Climate Science and Climate Policy in Federal Systems: Canada and the United States Compared," *The Review of Policy Research* 29, no. 3 (2012): 334-357.

[229] Miranda A. Schreurs, "From the Bottom Up: Local and Subnational Climate Change Politics," *The Journal of Environment & Development* 17, no. 4(2008): 343-355.

Still, there is a demonstrated willingness by states to take action. This thesis sought to explore that. Specifically, if the states have the will to take on climate change, what might be the best policies and tactics for pursuing them?

Chapter One examined the development of the first state-level cap-and-trade policy passed by a state legislature. While similar in many ways to other cap-and-trade regimes in Europe and the United States, it was the first to be passed by a state legislature. For California, a traditionally progressive state with a long history of leading the nation on environmental policies, there were still a myriad of factors that had to line up for it to be a success, including a political climate that is more conducive to taking on a large and revolutionary regulatory regime, a significant amount of groundwork both to establish the existing policy precedent and to time their action for when there was high public awareness and support for taking action on climate change. It also required the willingness of both sides to compromise, and emphasizing that this kind of environmental leadership was part of California's identity. Only with these factors combined did California's AB 32 become law.

Chapter Two reviewed the failed attempt by environmentalists to include a strong RES in a state constitution. Michigan's failed Proposal 3 was a gamble, one that required a strong argument in favor of the constitutional merits of the proposal that they found themselves unprepared to defend. While opponents did argue that Proposal 3 would be costly, both sides agreed that renewable energy development would be great for Michigan. It was not the merits, but the method of its enactment that downed Proposal 3. The tactic of proponents to use the state constitution to effect an incremental policy change rather than a statement of fact, combined with its vagueness, the timing of the

proposal, and proponents' inability to defend why a constitutional amendment was the only option for this policy led to the defeat of AB 32.

While the first two chapters dealt with policies that were decided at least in part by the public – AB 32 by legislators that have to respond to voters' concerns and Proposal 3 that was decided entirely by voters – Chapter Three analyzed a policy route whereby the public was almost entirely removed from the deliberations. California's decision whether to use its own regulatory authority to raise global warming and fuel economy standards for vehicles sold in the state as it had done many times before or go along with a lesser, federal standard removed the general public almost entirely from the deliberations. There were a variety of voices on both sides of the debate, including the administration, the state, automakers, environmentalists, labor leaders and health experts, engaged together in a collaborative process to determine the best standard possible. While the regulatory route may seem like a sure-fire win for proponents of these standards, it requires a great deal of coordination, relationship building, and willingness by all parties to reach an equitable solution for it to become a reality, in addition to certain federal conditions that made it possible for California to have authority to exceed federal standards. Even under this ideal situation, it was still a tough fight, one under continuous threat by those outside the process – including some members of Congress – that were hell-bent on torpedoing the effort regardless of its benefits, as well as those inside the process – especially California – that had considerable leverage over the outcome. However, success through the regulatory process, while shielded from most of the political and social factors that affect other policy routes, is by no means a guarantee for success.

Limitations and Opportunities for Additional Research

While there are many lessons to be learned from these three policies and the policy routes they took, there are several questions left unanswered by this thesis that could benefit from additional research.

One of the biggest impacts on the outcomes of these cases not extensively explored in this thesis was the role of advertising. There were ads aired by both sides during the deliberations of all three proposals that varied greatly in their reach, tone, and expense. Spending for Michigan's Proposal 3 was amongst the highest in the nation for a ballot initiative during the 2012 election, much of it on advertising. This thesis does not go into detail about the relative financial abilities of the different players in these debates, but the strong sway of public opinion against Proposal 3 through the course of the election illustrates just how much of an impact advertising could have potentially affected how individuals perceived those proposals. Additional research could explore the permeation of those advertising-driven messages through different media, how it affected different demographics in the public, and whether the messages in the ads were different than the ones used by the policy entrepreneurs themselves.

Another opportunity for additional research that was only slightly explored in this thesis was just how much the opinion of average citizens and even the policy entrepreneurs themselves on climate change was informed by personal experience and awareness of the impact it was having on their states. Understanding peoples' personal awareness of climate change's impact on their own state is crucial to understanding how they perceive its threat and thus their support for taking state-level action.

This thesis also focused exclusively on state-level action, but counties, cities, and small towns throughout the country have sought to also take their own action to curb climate change and mitigate its impacts. Examining how these actions and the policy entrepreneurs behind them can help to better understand how their work influenced those on the state level to act on these policies.

There were also some limitations to this research. The choice to use California as an example in two of the chapters led to less variety in the types of political climates explored, but was deemed necessary because it was more important for this research to focus on the different policy routes states have at their disposal. Because California has been more of a battleground for action on climate change, there were greater opportunities for analysis. Hopefully, if other states take similar action, it could yield different case studies that could be used to broaden this research.

For both proposals explored in Chapters 1 and 3, much of the negotiations over the bill happened behind closed doors, requiring a heavy reliance on secondary sources and making it difficult to ascertain many of the specific issues that were deliberated and whether the positions expressed in those negotiations were of the same fervor as they played out in the press. Future researchers could conduct records requests and detailed interviews with the participants in these negotiations to shed a better light on how these policies developed.

Recommendations: Regulation and Education

So what, if any, of these policy routes explored is the best answer for the states? While there is always room for public debate, the further away a process is able to get

from the mess of public opinion on climate change, the better. Regulatory work that is open to public debate but less susceptible to the whims of an uneducated and fickle public is not just the best path but – absent a major change in the political tone around the issue – it may be the only path forward for the foreseeable future. This is not an easy task, as most states' regulatory actions are dictated or at least driven, in part, by the sitting governor, meaning that a state may be less likely to move forward a climate-related policy if the governor is opposed to it. Additionally, some states may not have the appropriate regulatory body or capacity to produce these policies, and even if a state does have a capable regulatory body, ultimately enactment of those polices may still fall to the governor or state legislature. Still, the process of proposing, developing, and implementing regulations backed by law allows for public involvement through comments and scoping hearings but is deliberative and insular enough so that only those who are well-versed on the topic and passionate about getting involved in it are able to have a seat at the table. This of course may change as more and more people are educated on climate change and more states take a greater leadership role with their own action.

But what role, if any, do these states' policies have in a federal climate strategy? While the scholarship has extensively explored the potential for these bottom-up approaches to combating and adapting to climate change, few claimed that this approach is the best. Indeed, other research found that neither a bottom-up nor a top-down approach is tenable in the long run, suggesting that in order to be most effective, collaboration between subnational and national authorities is essential to maximizing the

effectiveness of these policies.[230] Until Congress is more willing to engage on this issue, state and national climate policy entrepreneurs will have to rely on regulatory options under the administration's existing authority to make the states themselves greater partners in the development and implementation of a climate strategy.

In many ways, at the time of this thesis's submission, this approach is already playing out. President Obama benefits from broad authority granted to him by the Clean Air Act and legal precedent, making anything beyond that authority difficult because it would require Congress to grant that authority first, but it has the added benefit of creating a policy space in which these subnational actors like the states can take a greater leadership role in the implementation of these different strategies or the implementation of their own. This action could collectively serve to lay the groundwork for more national action.

While President Obama sought a solution from Congress during his first term, including supporting the 2009 failed cap-and-trade bill, his administration has since relied increasingly on a regulatory approach. When the research on this thesis first began in 2012, President Obama had been quiet on climate change during his campaign for reelection, a very different change in tone from just four years before when he called it "a security threat, an economic albatross, and a moral challenge of our time."[231] But in 2013, with his second and final term as president secured, the president told Congress that if it

[230] Stephanie Amaru and Netra Chhetri, "Climate Adaptation: Institutional Response to Environmental Constraints, and the Need for Increased Flexibility, Participation, and Integration of Approaches," *Applied Geography* 39(2013): 128-139.

[231] Abby Phillip, "Barack Obama's Evolution on Climate Change: A Brief History," ABC News, Nov. 2, 2013, http://abcnews.go.com/blogs/politics/2012/11/barack-obamas-evolution-on-climate-change-a-brief-history/.

would not act, he would,[232] and in June he did just that with the unveiling of his climate action plan, which among other things ordered the EPA to work with states and industry to reduce carbon emissions from existing power plants. The plan sets targets for the states and allows them to determine how it will best meet those targets, including the right balance of shuttering old, dirty plants with investments in cleaner technologies.[233]

Ultimately, the solution may not be with the states but with the nation as a whole with a greater emphasis on education and advocacy about the need to address climate change. Regardless of the limited effectiveness of these state-level policies, which opponents say does not justify the potential costs of these policies when other high-carbon emitting countries like China and India are continuing unabated, the reality is climate change is already a reality.

The United Nations' Intergovernmental Panel on Climate Change released a report in 2014 from a group of hundreds of climate change from around the world that concluded that human-driven climate change is "unequivocal," with each of the previous three decades warming than the last and the effects of that warming already underway, including rising sea levels, reduced crop yields, more frequent and intense severe weather, and species disruption.[234] The report concluded that nations now must limit emissions not to prevent climate change but to mitigate it while forwarding adaption policies to minimize its effects.

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[232] Chris McGreal, "State of the Union 2013: Obama pledges new deal for U.S. middle class," *The Guardian*, Feb. 13, 2013, http://www.theguardian.com/world/2013/feb/13/state-of-the-union-obama-congress/.

[233] "FACT SHEET: President Obama's Climate Action Plan," The White House, June 25, 2013, https://www.whitehouse.gov/the-press-office/2013/06/25/fact-sheet-president-obama-s-climate-action-plan/.

[234] United Nations' Intergovernmental Panel on Climate Change, "Climate Change 2014: Synthesis Report Summary for Policymakers," last accessed May 3, 2015, https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf/.

The report emphasized that no single policy from one actor would solve this problem. “Climate change has the characteristics of a collective action problem at the global scale, because most GHGs accumulate over time and mix globally, and emissions by any agent (e.g., individual, community, company, country) affect other agents,” according to a summary of the report for policymakers. “Effective mitigation will not be achieved if individual agents advance their own interests independently. Cooperative responses, including international cooperation, are therefore required to effectively mitigate GHG emissions and address other climate change issues.”[235]

While challenging due to the issue being increasingly defined along political ideology and the difficulty to tie a gradual environmental changes and severe weather events to climate change, both states and the country need to initiate a sustained public education campaign to help build public awareness and support for broader, comprehensive action.

Conclusion

At the time of this thesis’s submission in May 2015, Senate Majority Leader Mitch McConnell was attempting to marshal governors across the country to oppose President Obama’s planned caps on emissions for existing power plants.[236] Because McConnell, a Kentucky Republican whose state is the third-largest coal producer in the country,[237] does not have many legislative options for a bill to limit the EPA’s actions, he

[235] Ibid.

[236] Mitch McConnell, "States should reject Obama mandate for clean-power regulations," *Lexington Herald-Leader*, March 3, 2015.

[237] Which stats produce the most coal? U.S. Energy Information Administration, accessed March 25, 2015, http://www.eia.gov/tools/faqs/faq.cfm?id=69&t=2/.

is making his case directly to the governors arguing that they should not comply with the regulatory action. But as the *New York Times* noted in its editorial slamming the move by McConnell, "Governors who follow his advice may not get the result they want, since, under time-honored environmental law, noncompliant states could face imposition of a blanket federal alternative that is not tailored to local conditions."[238] McConnell's action assumes the states would want to outright reject the action by the administration, and while there are certainly some states opposed to this proposal, the fact of the matter is that, whether the federal government takes action or not, more and more states are ready and willing to take on climate change, through any and every policy route necessary.

[238] "EDITORIAL: A Reckless Call From the Senate's Leader," *New York Times*, March 9, 2015, http://www.nytimes.com/2015/03/09/opinion/a-reckless-call-from-the-senates-leader.html.

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University of Colorado Boulder, CO
Bachelor of Science – News and Editorial Journalism August 2001-May 2005

- Completed four internships at local newspapers while completing degree

PROFESSIONAL EXPERIENCE

National Parks Conservation Association Washington, DC
Senior Media Relations Manager January 2015-Present

- Chief communications strategist for Government Affairs, Clean Air, Energy, and Texas teams, designing and implementing messaging campaigns to achieve key legislative priorities

United States Navy Reserve Norfolk, VA
Public Affairs Officer March 2013-Present

- Support media operations and public outreach for Fleet Forces Command - Public Affairs

Office of Congresswoman Michelle Lujan Grisham (NM-01) Washington, DC
Communications Director July 2014-November 2014

- Led all communications activities for D.C. and district offices, preparing member for media interviews and speaking engagements while generating all speeches and press materials

Union of Concerned Scientists Washington, DC
Press Secretary March 2011-June 2014

- Communications lead for Clean Vehicles and Energy programs, responsible for drafting all press materials and briefing reporters on organizational initiatives and policy developments

Joe Sestak for Senate Media, PA
Deputy Communications Director January 2010-November 2010

- Helped craft communications strategy for primary and general election campaigns, including press outreach in western Pennsylvania and managing day-to-day operations of press team

Environment & Energy Publishing, LLC Washington, DC
Reporter January 2006 - September 2009

- Covered the Interior Department, Capitol Hill, and public lands issues for *Greenwire, Land Letter*, and *E&E Daily*, with several reprinted on the *New York Times* website

The Wall Street Journal Washington, DC
Reporting Intern, Washington Bureau September 2005-December 2005

- Pitched and wrote enterprise stories while assisting staff reporters on breaking news and research projects as nationally-selected member of Washington Center for Politics and Journalism